

AMERICAN INSTITUTE OF PHARMACY

This Building Is Dedicated to Those Who Have Contributed Their Knowledge and Endeavor
to the Preservation of Public Health and to the Further Advancement of Science in Pharmacy

of the

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Practical Pharmacy Edition

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ON THE BEAM

OF NO small importance to modern air transportation are the so-called direction finders and other instruments designed to keep the plane headed straight for its goal . . . "on the beam" . . . that serves as the guide to its objective. Hit-or-miss reckoning of general directions is not relied upon by the plane navigator to bring his ship to its destination. *Direction guides, properly functioning and properly followed, mean safety.* If they function incorrectly or are not properly observed, the usual result is disaster.

To the pharmacist, a carefully charted course to a definite objective and a well-developed program to keep him "on the beam" toward his goal are essential.



What should this objective be?

It is up to the individual, of course, and depends upon his training, his ability, and his conception of pharmacy, but the only successful, satisfying objective for the pharmacist can be to render a necessary service to the physician, dentist, nurse, veterinarian, and other health groups, and to the public; to be a real factor in the prevention and treatment of disease in his community. How great his financial remuneration will be depends upon how great is his contribution.

With this or a similar objective clearly in mind, he should chart his course. He should say to himself, "This is what I hope to ac-

complish and these are the things I must do to achieve that goal. To these basic principles are related a great many details which will come to me in ideas and suggestions that I must weave into my program, but I must remember that they are isolated factors which can benefit me only as they become a part of my general plan. I must never let any of them assume undue importance in my mind and swerve me from my long-range objective."

A visible prescription department, a professional window display, or a detailing visit to a physician in themselves are but contributing factors to the success of a comprehensive professional program. Alone and incoördinated they mean nothing and can be expected to accomplish even less.

To be successful, a pharmacist must *believe* in pharmacy. He must be convinced of the public need for his services. Once he is convinced of this he should go one step further by analyzing his position and function in the community which he serves. He will gain a new conception of his pharmacy, his obligation to customers and his responsibility to physicians.



It will make a big difference.

When Mrs. Brown brings in a prescription for someone in her family who is in bed with a cold he will suggest the purchase of a box of cleansing tissues to aid in making the patient comfortable, to avoid the necessity

for laundering a large number of handkerchiefs and to prevent the spread of the infection to other members of the family. His suggestion will be motivated not by the extra nineteen-cent sale he may make but by a real sense of serving the patient.

When Mrs. Smith tells him of the persistent head colds of her husband and he suspects an allergic condition, he will explain how medical science to-day is able to ferret out the guilty substance in many such cases and he will recommend consulting a physician.

When a customer asks his opinion of the respective worth of two products he will give his honest opinion, based on an actual knowledge of the merits of the two products and not on whether he makes a few cents more profit on one than the other. He would sell out his pharmacy before he would sell out the confidence of his customers.

He will detail physicians, not on his prescription services alone, but on his general facilities and ability to aid in the *comfort* of patients as well. He will tell doctors about new items in his stock of sick-room supplies . . . a new type of invalid cushion, a new measuring spoon for medicines, a new spring attachment for hypodermic syringes to make it easier for the uninitiated to give himself injections, etc. The physician will thus be promptly informed of such items and will suggest that his patients obtain them. Anything that makes the patient more comfortable complements the treatment of disease.



Pharmacy can be profitable and there are thousands of successful stores all over the country that testify to the fact that a man can be a good pharmacist, follow the teachings of his college professors, observe the ethics of the profession and keep faith with

himself *in a practical way* and be financially successful.

No one but the individual himself can decide upon the objective and conceive or plan the program he needs. There is a place, however, for some agency to bring him ideas and suggestions of practical, usable nature that he can weave into his program . . . to keep him up-to-date with new developments in compounding methods, in pharmaceutical research, in medical techniques, in legislation and to show him how other pharmacists are meeting problems which are similar to those he is facing. He could do this himself if he had the time to study all of the leading medical, dental, hospital, and general scientific journals each month; to analyze voluminous governmental reports; to talk with officials of the various governmental agencies which have some jurisdiction over the practice of pharmacy; and to visit the leading pharmacies from coast-to-coast to pick up ideas that he could use in his store.



But no man living can do all that and practice pharmacy too, so there is a place in the field for some agency to do it for him. It is this place that the AMERICAN PHARMACEUTICAL ASSOCIATION hopes to fill with this Practical Pharmacy Edition of its JOURNAL at this, the beginning of its second year.

We have taken as our objective the publication of the most practical, usable, professional journal available to the pharmacist to-day. We have drafted a program which we believe should guide us to that goal. We shall endeavor to practice what we preach and stay "on the beam."

This is your journal. Your suggestions, comments, and criticisms will help us pattern it to your needs and will be most welcome.

A STABLE SYRUP OF FERROUS SULFATE

Developed by DONALD A. CLARKE

APOTHECARY-IN-CHIEF, THE NEW YORK HOSPITAL

DEVELOPED FOR ADMINISTRATION TO INFANTS AND CHILDREN, THIS NEW PEPPERMINT-FLAVORED IRON TONIC IN LIQUID FORM PERMITS ADJUSTMENT OF DOSAGE TO NEEDS

Donald A. Clarke in the pharmacy of the New York Hospital where he developed this product for the use of pediatricians.



"GIVE us a liquid preparation of ferrous sulfate that will remain stable indefinitely, and will lend itself to administration to children by virtue of its attractive appearance, its pleasant taste, and by making it possible to vary the dosage to fit different ages," said the Formulary Committee of The New York Hospital to Donald A. Clarke, chief of that hospital's Pharmacy Department, several months ago.

So Mr. Clarke went to work.

Iron is not easy to maintain in the ferrous state, particularly in solution. Exposure to light and the frequent exposure to air when the container is opened favor the oxidation of the ferrous ion to ferric and the precipitation of ferric hydroxide.

Knowing that a small amount of sugar has been used in certain preparations to protect the ferrous ion from oxidation for a short period of time, Mr. Clarke set out to find what concentration of sugar would be necessary to protect a given quantity of ferrous sulfate indefinitely.

The physicians wanted a preparation that would represent 0.1 Gm. of ferrous sulfate per teaspoonful (4 cc.) and U. S. P. ferrous sulfate contains a minimum of 54.36 percent FeSO_4 per 100 cc. so he saw that if he wanted 2.5 Gm. of FeSO_4 he would have to use .5436:1::2.5:x or 4.6 Gm. of the U. S. P. salt.

His experiments showed that a saturated solution of sugar in water (85%) would effectively prevent this amount of ferrous sulfate from oxida-

tion. A slight precipitation of ferrous hydroxide at the end of three or four weeks was found to be due to the presence of a small amount of ferric ion in the ferrous salt from which the preparation was made, but this precipitation could be controlled by increasing the acidity of the product by the addition of 0.2 percent of citric acid.

Spirit of peppermint was used as a flavoring agent because it is a favorite flavor among children and completely masks the disagreeable ferrous taste. In Mr. Clarke's case, physicians at the hospital had been thinking of the preparation in terms of an "elixir of ferrous sulfate" and for his purpose the alcohol in the spirit of peppermint made the product at least theoretically hydro-alcoholic and, thus, fit the designation "elixir." The title "Syrup of Ferrous Sulfate," however, would more accurately describe it.

The complete formula for the preparation, as developed by Mr. Clarke, is as follows:

Ferrous Sulfate, U. S. P. XI.....	4.6 Gm.
Citric Acid.....	0.2 Gm.
Spirit of Peppermint.....	0.2 cc.
Simple Syrup, U. S. P. XI, <i>q. s.</i> ...	100.0 cc.

Weigh out citric acid and grind into powder in a suitable mortar. Add to this the required amount of granular ferrous sulfate but do not triturate. Add to this a small quantity of simple syrup (enough to cover well) and triturate vigorously until the ferrous sulfate granules are reduced to as fine a state of sub-division as possible. Have a suitable bottle ready and pour into bottle. Wash out the mortar with divided portions of the syrup and add to above. Then add the Spirit of Peppermint and add sufficient syrup to make 100 cc. Cork bottle well and shake vigorously from time to time. When all the salt is dissolved, strain through several thicknesses of gauze. The preparation is then ready for dispensing. Note: Avoid any metal utensils contacting this preparation. In preparing large quantities slow motor agitation is desirable. Use as freshly prepared ferrous sulfate as possible for the older the salt is the more ferric ion it contains. When made with an old salt the preparation acquires a light green

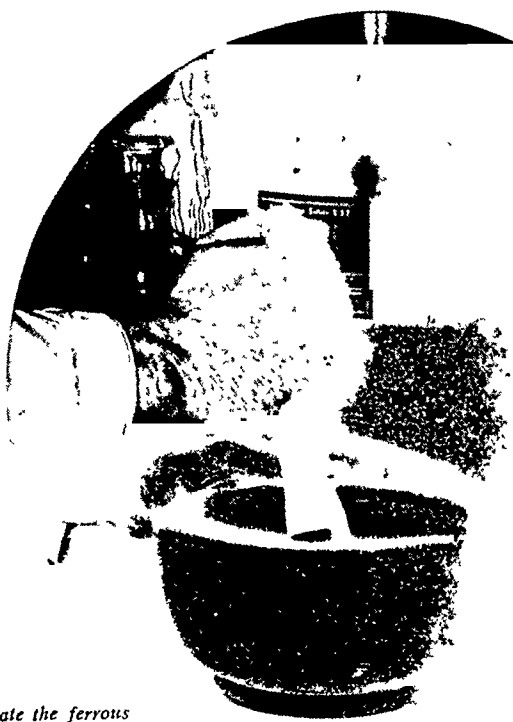
color which does not increase in intensity after prolonged exposure to light but does disappear on exposure to actinic light and then reappears upon removal from such light.

The preparation has been used in the Department of Pediatrics of The New York Hospital and has proved effective.

DETAIL THIS PRODUCT

Here is a product which you can prepare to meet a real need of the physician, particularly the pediatrician. Iron deficiency anemias or hypochromic anemias, as they are known, develop frequently in pregnancy due to the demands of the infant on the mother and unless an adequate metabolism of iron is established in the mother prenatally, the child may be born with an iron deficiency and in addition, leave the mother anemic. Furthermore, the growth of infants and children carries with it an increase in blood volume requiring an adequate supply of iron. Here are the points to emphasize:

1. Modern medical opinion believes that anemias due to iron deficiencies respond best to



Be sure to triturate the ferrous sulfate under simple syrup to prevent oxidation.

treatment with inorganic salts, preferably in the ferrous state.

2. Children will take a pleasantly-flavored liquid preparation more readily than they will take a pill or tablet.

3. A liquid preparation permits a wide range of dosage to satisfy the needs of every patient from new-born infant to adult.

4. The preparation is permanently stable and retains its original appearance indefinitely.

5. This preparation has been used clinically in the Department of Pediatrics of the New York Hospital and has been found effective, giving an

adequate blood hemoglobin response in three to four weeks.

BODY REQUIREMENTS

Physicians prescribe such preparations on the basis of the ferrous iron content per dose and a consideration of the amount which must be administered per day to the patient in order to raise the hemoglobin content of the blood rapidly and economically. Pediatricians at The New York Hospital believe that an adult requires about 500 mg. of ferrous iron per day and that infants and children require from 78 mg. to 104 mg. per day. Each 4 cc. of this preparation represents approximately 37 mg. of ferrous iron.

PRESIDENT-ELECT OF A. Ph. A.

Bernard Victor Christensen, Dean of the College of Pharmacy of Ohio State University, Columbus, will take office as president of the AMERICAN PHARMACEUTICAL ASSOCIATION at the closing session of the Detroit convention next August. He was elected by the mail ballot of members of the ASSOCIATION last fall and will serve for the year 1941-1942.

Dr. Christensen was born in Westfield, Wis., and obtained his early education in the Rural Schools of Marquette County and the Westfield High School. He enrolled in the elementary course of the Stevens Point Normal School and upon graduation he taught in the Rural Schools of Marquette County for one year, served as Principal of the State Graded School in Modena, Wis., for two years, and then re-entered Stevens Point Normal School in the full course. Upon graduation he successively served as Principal of the High Schools of Prentice, Friendship and Baldwin. He continued his studies during summers at the University of Minnesota and the University of Wisconsin while he was serving as high school principal. During the year 1916-1917 he completed requirements for the Bachelor's degree at the University of Wisconsin. After again serving in the public schools of Wisconsin as Superintendent at Arcadia and Augusta for a period of six years, he returned to the University of Wisconsin to continue with the study of pharmacy.

He received the degrees of Ph B., M S., and Ph D. from the University of Wisconsin and served as instructor in Pharmacy at that institution during the latter three years of his study. In 1927 he accepted appointment as Head Professor of Pharmacognosy and Pharmacology of the College of Pharmacy, University of Florida, in 1933 he was made Director of the school and in 1939 he accepted the post of Dean of the College of Pharmacy of Ohio State University.

Dr. Christensen is the author of many books and papers on the cultivation, collection, preservation, and assay of medicinal plants. He received the Ebert Prize in 1939 for a group of papers on gelsemium, veratrum viride, and ergot. He is a member of the U. S. P. Revision Committee, Fellow of the American Association for the Advancement of Science, member of the Committee on Botany and Pharmacognosy of the National Research Council and a member of five fraternities and many scientific societies. He is a registered pharmacist in Wisconsin.



DR. B. V. CHRISTENSEN

THE STATUS OF STILBESTROL

SYNTHETIC ESTROGEN, NOW IN USE IN ENGLAND, AWAITING APPROVAL AS A "NEW DRUG."

CALLED by one clinician "the most valuable addition to our therapy in recent years," the first synthetic estrogen, *diethylstilbestrol*—or *stilbestrol* as it has been named for the sake of convenience, awaits only the approval of the Federal Food and Drug Administration as a "new drug" before being placed on the market as an inexpensive, orally-administered therapeutic agent for the relief of the menopause and other conditions.

Although in use for a considerable length of time in England, the introduction of the new substance in this country has been delayed pending a thorough investigation of conflicting reports of untoward reactions accompanying its use. As soon as the present controversy over these side-actions is settled, stilbestrol will take its place in the armamentarium of physicians and on the prescription room shelves of pharmacists.

Stilbestrol will be welcomed because it will extend the treatment of one of the most distressing of natural body processes: the emotional stress, irritability, mental depression, exhaustion, and physical upsets that accompany "change of life" in women between the ages of 40 and 50 years when ovarian function decreases. This synthetic substance will decrease the cost of effective treatment and make it available to more women, and, being effective orally, it will eliminate the necessity of hypodermic administration which is distasteful to many persons.

SYNTHESIZED IN 1938

The synthesis of stilbestrol was announced in 1938 by four English investigators who described it as 4:4-dihydroxy-alpha:beta-diethylstilbene. The effectiveness of this substance when administered orally first attracted attention because the natural estrogens lose as much

as 95 percent of their activity when given by mouth whereas stilbestrol suffers relatively little loss of activity when administered perorally.

Some investigators feel that the detoxification of the natural estrogens in the liver is a safeguard that is absent in the case of stilbestrol. This, however, has not been conclusively demonstrated to the satisfaction of all investigators.

The untoward reactions of stilbestrol administration include nausea, abdominal distress, anorexia, diarrhea, headaches, dizziness, and thirst. Some investigators report an extremely high percentage of these side reactions, while others report a complete absence or a not-excessive number and characterize the reactions as "disagreeable but not harmful" and believe that they can be minimized by reducing the dosage.

Stilbestrol possesses all of the important effects of the natural estrogenic hormones; namely, promotion of uterine growth, stimulation of vaginal mucosa, growth of breasts, inhibition of lactation, endometrial proliferation with subsequent withdrawal bleeding, and inhibition of the activity of the anterior pituitary gonadotropic and growth hormones.

A tremendous amount of research has been done on this new drug. A recent bibliography lists more than 160 papers which have been published on the subject and many more have appeared since the bibliography was compiled. The controversy concerning the safety of the preparation remains, however, and its future probably depends upon whether clinicians can conclusively prove that the reactions are unpleasant but innocuous. Numerous pharmaceutical manufacturers are interested in the research and the commercial introduction the drug awaits the results of further investigation.

Stilbestrol is a drug which will bear watching for if and when it is released for general use it undoubtedly will be in great demand. In the meantime, pharmacists should be familiar with its status in order to answer the questions of physicians intelligently.

THE PHARMACIST AND THE DRAFT

by H. EVERT KENDIG

CHAIRMAN

COMMITTEE ON THE STATUS OF PHARMACISTS IN GOVERNMENT SERVICE

DEFERMENT, PLACEMENT IN PHARMACEUTICAL WORK, AS WELL AS THE POSSIBILITIES FOR COMMISSIONS DEPEND UPON THE INDIVIDUAL INVOLVED.

MUCH confusion still exists in the minds of pharmacists concerning their status with respect to conscription under the Selective Training and Service Act of 1940 and many conflicting reports and rumors dealing with the situation are being heard and read. It is well to take stock of our present knowledge and attempt to clarify the thinking of pharmacists in as authoritative a manner as possible.

To give a direct reply to the questions which we are being asked daily by telephone, by mail, and by wire, the following catechism has been prepared. It represents the best information at our command at the present writing.

Are pharmacists automatically deferred from training and service because they are members of a profession that is "necessary to the maintenance of health?"

No. There is no blanket deferment for any group, class, or profession. Deferment is based upon *individual* conditions. Although the profession of pharmacy is certainly "necessary to the maintenance of health, safety, and interest," deferment of an individual pharmacist by a local draft board depends upon whether or not he is a necessary man in the particular community whose removal would represent such a material loss that the pharmaceutical services available in the general neighborhood would be inadequate as a result. It would have to be proved that he could not be replaced satisfactorily because of a shortage of persons with his qualifications or skill.

Are proprietors of "one-man stores" classed as necessary men and deferred?

Not necessarily. If such a man could not be replaced or if his removal would cause a material loss in the pharmaceutical services available in the community he might be deferred by his local

draft board but merely the fact that he conducts a "one-man" store does not assure deferment.

Will a pharmacist who is drafted be placed in a position where he will perform pharmaceutical duties?

He may, and he may not. The Army will do its best to place draftees, after they have had the required military training, in departments of the service where they will perform duties for which they are best equipped by civilian training and experience.

What will decide whether or not a pharmacist will be placed in a position where he will do pharmaceutical work?

The decision will be based on (1) the need of the Army at that time for pharmaceutically trained men, and (2) the qualifications of the individual draftee. Bear in mind that there are pharmacists within the draft age limit who have had two, three, and four years of college training and who, thus, have different qualifications.

Every pharmacist, in completing his records when inducted, should set out specifically his training and experience as a pharmacist and request to be assigned to the Medical Department for service as a pharmacist.

What rank does the pharmacist receive if he is placed in a position where he performs pharmaceutical duties?

Such men will be given the rating of technical sergeant with pay of \$84.00 a month and sustenance, after they have received their basic training.

Are pharmacists eligible for commission in the Medical Administrative Corps?

Yes, if they have the proper qualifications of education, ability, character, are capable of assuming leadership, and meet the other requirements of "officer material." It is presumed that only those who have had four years of college study will be considered eligible from the educational viewpoint and not all of these will be able to meet the other requirements of an Army officer.

It is contemplated that a block of commissions in the Medical Administrative Corps Reserve will be set aside for suitably qualified pharmacists for duties particularly in large station and general hospitals. Instructions to this effect will shortly be issued to the Corps Area Headquarters.

How does a pharmacist apply for a commission in the Medical Administrative Corps Reserve?

Those educationally and otherwise qualified and already in the service as draftees should apply to their military commander.

Those not in the service should apply to their Corps Area Headquarters for commissions in the Medical Administrative Corps Reserve. If commissioned they may be called for duty at once or may be left on the inactive list until a later date.

What is "Red Cross Enrollment"?

Early last year the American Red Cross invited pharmacists to enroll voluntarily with its organization as "pharmacy technicians." Those who enrolled were investigated and to date, 775 have been accepted. This enrollment was carried on at the request of the Surgeon General

of the Army and he has asked military authorities to classify for duty in the Medical Department all Red Cross enrollees who are drafted for a year of military service.

Each enrollee has an identification card which he presents at the time he is conscripted. This enrollment will facilitate his being assigned to pharmaceutical duties as promptly as possible.

Is enrollment in the Red Cross still open?

Yes. Applicants should write to the American Red Cross, Washington, D. C., for the necessary forms to enroll as pharmacy technicians.

May I repeat, in conclusion, that the entire program of Selective Training and Service is built on a consideration of the individual circumstances concerning each draftee. No group, class, or profession receives blanket consideration. Pharmacists, as a class, are not exempt, or deferred. Pharmacists, as a class, are not assured of commissions. Pharmacists, as a class, are not even assured that they will be placed in positions where they will perform pharmaceutical duties. It is the individual, his civilian circumstances, and both his educational and general qualifications, as well as the Army requirements which must be considered.



Every pharmacist, when inducted, should set forth his training and experience and request to be assigned to the Medical Department for service as a pharmacist.

Wide World Photos

A product may give temporary relief from certain symptoms of a simple cold but it must not be labeled as a competent treatment for a cold, says the Food and Drug Administration



Photo by Shigeta-Wright from Black Star

F. D. A. TO ACT ON LABEL CLAIMS OF "COLD" PRODUCTS

NO KNOWN SUBSTANCE WILL PREVENT OR CURE A COLD, STATES W. G. CAMPBELL IN ANNOUNCING NEWEST DRIVE.

"PRESENT-DAY medical opinion supports the view that there is no known substance or mixture of substances which can be relied upon to prevent or cure colds," W. G. Campbell, Commissioner of Food and Drugs of the Federal Security Administration, notified manufacturers of "cold" preparations on February 3.

"Surveys of products which now appear upon the market show that many of them make claims involving the treatment or prevention of colds which are not justified by the scientific facts; others exaggerate the effects which the medication will have upon the symptoms," said Mr. Campbell.

"It is the opinion of this Administration that any reference to colds in the labeling of a drug

should clearly indicate just what the effects of the medicine with respect to this disease condition will be and, if necessary avoid misunderstanding, just what the limitations of the medication are," he said.

GUARANTY IMPORTANT

Mr. Campbell's announcement suggests two actions on the part of the pharmacist:

1. He should make sure he has an adequate guaranty from the manufacturer or wholesaler covering every "cold" preparation he stocks. Such a guaranty relieves him of the responsibility for statements made in the labeling. The pharmacist should make sure that each such guaranty meets the requirements set forth in the regulations issued under the Food, Drug, and Cosmetic law.

2. If he puts up any "cold" preparations of his own he should make sure that their names

are not subject to criticism. Such names as *Cold Breakers*, *Cold Stop*, *Cold Remedy*, *Cold Treatment*, *Cold Relief*, *Sure Stop For Colds*, *Cough Remedy*, etc., or any other title that might suggest that the product is an effective cold treatment or preventive are believed to be unsatisfactory. He should also make sure that the labels contain no unjustified statements as to the effectiveness of the preparations. During the past year the Federal Trade Commission took exception to such statements concerning "cold" remedies as the following:

- A cure for colds
- A remedy for colds
- Will stop colds
- Will prevent the development of colds
- An effective treatment for colds
- Gives lasting relief from colds
- Drives out colds

- Breaks up colds
- Attacks the cold at its cause
- A specific against colds
- Stops any cough

The Food and Drug Administration is apparently of the opinion that a product containing therapeutically-effective ingredients can hardly do more than give temporary relief from certain symptoms of a simple cold or cough due to a simple cold. It believes that labels should state specifically what symptoms the product relieves, such as throat irritation or excess nasal secretions, etc. Furthermore, if the word *cold* is used in the labeling in a manner which might give the user the idea that the product is a competent treatment for a cold, the Administration believes that a specific disclaimer or denial should be included in its indications for use.

CHECK UP ON YOUR GUARANTIES

The Food and Drug Administration reports that it has seen copies of manufacturers' guaranties which do not meet the requirements of regulations issued under the Federal Food, Drug, and Cosmetic Law because they are too general in nature. The Administration does not believe that a "guaranty under all laws and regulations affecting the distribution of a product" is adequate. To give you proper protection a guaranty should state specifically that products issued under it are not adulterated or misbranded within the meaning of the Federal Food, Drug, and Cosmetic Act.

A guaranty may be limited to a specific shipment or delivery of an article, in which case it may be a part of or attached to the invoice or bill of sale covering such shipment or delivery; or a guaranty may apply to any shipment or delivery of an article made by a manufacturer or wholesaler to a specific retailer at any time. The two forms suggested in the federal regulations are as follows:

LIMITED GUARANTY

(Name of person giving the guaranty or undertaking) hereby guarantees that no article listed herein is adulterated or misbranded within the meaning of the Federal Food, Drug, and Cosmetic Act, or is an article which may not, under the provisions of section 404 or 505 of the Act, be introduced into interstate commerce.

(Signature and post-office address of person giving the guaranty or undertaking.)

CONTINUING GUARANTY

The article comprising each shipment or other delivery hereafter made by (name of person giving the guaranty or undertaking), to, or on the order of (name and post-office address of person to whom the guaranty or undertaking is given) is hereby guaranteed, as of the date of such shipment or delivery, to be, on such date, not adulterated or misbranded within the meaning of the Federal Food, Drug, and Cosmetic Act, and not an article which may not, under the provisions of section 404 or 505 of the Act, be introduced into interstate commerce.

(Signature and post-office address of person giving the guaranty or undertaking.)

Ersatz Blood

by RICHARD A. DENO, Ph.D.

ASSISTANT PROFESSOR OF BIOLOGICAL SCIENCES, RUTGERS UNIVERSITY COLLEGE OF PHARMACY

SHERMAN'S definition of war was never more apt than it is to-day, yet war does stimulate some types of scientific research and knowledge useful in times of peace may be acquired by the search for substitutes for essential materials whose normal source is cut off or for

materials which are needed in larger quantities than usual

During World War I countless lives were lost which could have been saved had blood transfusions on a large scale been possible at the front. The studies of Dr. Karl Landsteiner, Nobel



Laureate, had shown the necessity for typing blood to be used in transfusion, and for matching the blood of the donor with that of the patient. But this took time, and even when laboratory facilities were available precious hours were lost in locating a suitable donor. To save this time Dr. O. H. Robertson, then at the front, conceived the idea of a blood bank—a reserve supply of the four types of blood kept under refrigeration, properly tagged and preserved. It was still necessary to determine the type of blood of the patient, and a further disadvantage was that stored blood kept for only two or three weeks, even when properly refrigerated.

BLOOD BANKS

However, the blood bank gained in favor following the World War, first in Russia, where blood was even taken for storage from the cadavers of healthy persons who had met violent and sudden deaths, and within recent years in America. Dr. Bernard Fantus, well known to pharmacists for his many contributions as a member of the Revision Committee of the National Formulary until his death last year, did much to develop the blood bank in America, at the Cook County Hospital in Chicago.

Despite the fact that blood, either transfused directly from donor to patient or taken indirectly from the blood bank, is the best possible remedy for extensive hemorrhage, the necessity for typing and its poor keeping qualities are serious disadvantages which make an effective substitute desirable. In a hospital in Chicago these disadvantages may not be serious, but in a bombed village in England they are usually unsurmountable. So medical scientists in England and America have feverishly sought a substitute—one which need not be matched and which will keep well for months or even years.

EVALUATION OF SUBSTITUTES

In a recent issue of *The Lancet*, British medical journal, G. A. H. Buttle and his associates from the Army Blood-Supply Depot and the Department of Physiology, Middlesex Hospital, have given an accurate experimental evaluation of

various blood substitutes that have been used in the treatment of acute hemorrhage.

In their tests, cats were used. One half of the calculated blood volume of the animal was removed. The bleeding was done fast enough to leave the cat barely alive—with a very low blood pressure, no pulse apparent and gasping for breath. This condition—shock due to acute hemorrhage—results in death unless treatment is given at once, and is comparable to hemorrhagic shock in man due to rapid bleeding as from a wound produced by shrapnel.

To test the various blood substitutes a volume five-sixths of the amount of blood withdrawn was injected, each substitute being tried out on several cats. The deficiency in volume of one-sixth of that withdrawn was to allow for the natural mobilization of the blood reserves, such as are found in the spleen. Evaluation of the various substitutes was based on the increase of the blood pressure, and the return of the rate and rhythm of breathing to normalcy. To check on the various substitutes used other cats were bled. One group received no treatment while a second group was given transfusions of cat blood. Every cat in the first group died while all of those in group two made complete and rapid recoveries.

The results of the experiments were so clear-cut that the physicians were able to get a definite series of substitutes ranging in value from excellent to very poor. It was concluded that blood plasma (whole blood minus cells) is an entirely satisfactory substitute for whole blood, and that no other substitute solution is such. Of the others that were tested, Buttle and his associates conclude that serum (plasma minus the substances which produce clotting) ranks next, followed by hemoglobin-Ringer's solution; acacia in physiological salt solution; red blood cells suspended in an isotonic solution of salts; physiological salt solution; and isotonic solution of glucose. These are arranged in the descending order of their values. Since several of the substitutes are pharmaceutical preparations it is of interest to note what Buttle and others say concerning their use as substitutes for blood.

BLOOD PLASMA

Plasma makes up about 55 per cent of the volume of the blood, contains several important proteins and salts, and differs from whole blood chiefly in its inability to carry oxygen. In the treatment of hemorrhagic shock where no more

Left: Blood is taken from the donor by an experienced physician with every precaution for sterility.

than half of the total volume of blood is lost this difference is not of vital importance. More important are the facts that plasma has about the same viscosity as blood; it exerts the same osmotic pressure; and, because of its proteins, it prevents the loss of liquid from the blood into the tissues (edema). Each of these factors operates in maintaining the blood pressure, and plasma is practically as effective as whole blood in fulfilling this important function. It is recognized, of course, that if more than half the total blood is lost the need for replacement of the cells becomes of increasing importance.

Many months before the published report of the experimental work on cats the value of plasma as a blood substitute was known. Since plasma keeps for years without deteriorating and does not require matching it is superior to whole blood in times of emergency. Since last August some 17,000 persons in and around New York City have given over 8000 quarts

Detroit, tell of their work in drying plasma in cellophane cylinders. The product is a flaky or crystalline desiccated plasma which can be easily stored or shipped. When plasma is needed the cellophane container is opened aseptically and the contents added to the proper amount of sterile distilled water. In emergency it would not even be necessary to have the sterile distilled water. The cylinders could simply be immersed in ordinary water and by the diffusion



Right: The first Blood Bank in the United States, located in Cook County Hospital, Chicago.

of blood for its plasma, which is sent to England to save the lives of wounded Britishers—both soldiers and civilians. The cells are allowed to settle or are separated by centrifuging, and the plasma is tested to insure the absence of germs before it is sent abroad *via* plane or fast ship. Collection of this plasma for Britain has been supervised by the American Red Cross and the Blood Transfusion Betterment Association—an organization started eleven years ago by the New York Academy of Medicine to promote research in blood transfusion, as well as to perfect the system for recruiting and paying donors, and to give advice on the legal aspects of transfusion.

DRIED PLASMA

The next advance is foreshadowed in reports on the use of dried plasma. In a recent issue of the *Journal of the American Medical Association* the doctors Hartman of the Henry Ford Hospital,

of water inward a satisfactory plasma would result. Since bacteria and pyrogens do not penetrate the cellophane this plasma is perfectly safe to use. It requires little imagination to visualize the dramatic possibilities of such a product. As yet the use of dried plasma is in the experimental stage.

BLOOD SERUM

Serum, the next best substitute on Buttle's list, is definitely inferior to plasma because of the development of toxic substances during the clotting process in which the serum is separated from the cells. These toxic substances remain in the serum and when this is given in large amounts, as in a transfusion, an undesirable effect is produced in the small arteries. Experiments with dried serum give results comparable to those with undesiccated serum, and these results bear out reports from earlier experiments.

HEMOGLOBIN-RINGER'S

Hemoglobin in a solution of salts isotonic to red blood cells (hemoglobin-Ringer's solution) has never been used extensively other than in experiments in physiology. One advantage lies in its capacity for transporting oxygen, and a second is the stimulation to the formation of blood cells which it is supposed to produce. The results reported in *The Lancet* are not so good as with plasma. The explanation for the irregular results obtained lies in the excretion of the hemoglobin within two or three days, and the possibility of obstruction of some of the kidney passages during this excretion.

ACACIA

Acacia in physiological salt solution was developed during the World War, also by the British. Its value depends on the fact that a 6

of nephrosis and hemorrhagic shock with excellent results.

OTHER SUBSTITUTES

The use of red blood cells in isotonic solutions of salts was to check on the importance of an ingredient capable of carrying oxygen. The inferior value of this solution can be learned from the fact that three out of six animals died when it was used as the substitute for the blood withdrawn.

The records of physiological salt solution and isotonic dextrose solution, preparations similar to products in the U. S. P. and the N. F., were the worst of all. Of five animals given the saline solution and five given the dextrose solution none was alive after one hour and forty minutes. These pharmaceuticals are inexpensive and easy to prepare, but are very inferior as substitutes chiefly because they leave the blood stream so rapidly that they are unable to increase the blood pressure for more than a brief time.

From the experimental and clinical tests of the British and American workers, and the co-operative efforts of the New York groups in securing plasma, an American project is evolving which may be of inestimable value in time of war, and which will certainly provide a reservoir of effective transfusion material for the needs of times of peace. Mr. Davis, of the Red Cross, has



Left: Blood in various stages of processing is stored in huge refrigerators.

Photos by Wide World

percent solution of acacia has an osmotic pressure and viscosity approximately the same as that of whole blood. Poor results were obtained in the experiments of Buttle, and these are blamed on the variability of acacia and on the fact that it leaves the blood stream rapidly. In general British workers now condemn this solution from both the experimental and clinical points of view. In this country Hartman and others have used acacia solution in the treatment

stated that the New York project will devote full time to the accumulation of a national defense reservoir of blood plasma. This material will be put at the disposal of the Army and Navy, but in times of emergency will serve as an international bank to be drawn on for the benefit of victims of disasters of all kinds where "ersatz" blood is needed. Projects similar to the one in New York are being developed by hospitals in other American cities.

NEW REGULATIONS ON DRUGS "FOR PRESCRIPTION USE ONLY"

GOVERNMENT SEEKS TO STOP OVER-THE-COUNTER SALE OF PRODUCTS NOT LABELED WITH ADEQUATE DIRECTIONS FOR USE

IF a drug label bears the statement "*to be used only by or on the prescription of a physician, dentist, or veterinarian,*" that label (1) must not bear any statement of the conditions for which the product is to be used, (2) must not bear any directions for use, and (3) must bear a quantitative statement of its active ingredients unless it is an official product, according to new regulations proposed and published by the Food and Drug Administration on January 9th. Interested persons were given thirty days in which to submit written statements for consideration before final action was to be taken in respect to issuing the official regulations.

This action was not unexpected as neither the government nor pharmacists have been satisfied with the manner in which the "prescription use only" exemption as provided in previous regulations was working out in practice.

When the new Federal Food, Drug, and Cosmetic Law was enacted it provided that a drug is misbranded if its label does not contain adequate directions for use. The law provided, however, that in cases where adequate directions for use were not necessary for the protection of public health, the Administrator should promulgate regulations exempting such drugs from the requirement.

THREE EXEMPTIONS

Three such exemption regulations were issued. One exempt common drugs for which adequate directions are known to the ordinary individual, one exempt drugs for manufacturing use and the third exempt drugs used by a physician or on his prescription. It is the latter exemption which has caused trouble because its purpose has been circumvented by many manufacturers and the pharmacist has not known whether to follow the label statement in all cases, to ignore

it in some cases and observe it in others, or to ignore it altogether.

Not only have manufacturers of prescription specialties rightfully used the "prescription use only" legend on the labels of their products, but some manufacturers of such products as aspirin tablets, quinine sulfate pills, and compound cathartic pills in bulk have taken advantage of the exemption to absolve themselves of the responsibility and effort of preparing adequate directions for use on their labels. These manufacturers have assumed that pharmacists would realize that they could sell aspirin tablets without a prescription and they have as much as said that the legend could be disregarded.

PHARMACISTS CONFUSED

The pharmacist has been confused by this situation and, being told to ignore the warning in some cases and to observe it in others, he has been in a quandary over just what to do. The result has been that many products so labeled have been sold over-the-counter and the government wants to stop this practice. There is no justification for the use of this legend except in the case of drugs exclusively intended for prescription use and pharmacists should refuse to accept bulk aspirin tablets or other such products that bear the "prescription use only" legend.

In order to avail himself of the "prescription use only" exemption, the manufacturer must make adequate directions for the use of his products available to physicians, dentists, and veterinarians in scientific publications or otherwise if such directions are necessary. THE AMERICAN PHARMACEUTICAL ASSOCIATION believes that pharmacists licensed by law to compound prescriptions should have such information available to them in order that they can fulfill adequately their obligations to physicians and the public in the compounding of prescriptions. The ASSOCIATION has filed a formal request with the Food and Drug Administration for consideration of this point in drafting the final regulations.

The new regulations emphasize the need for complete files of information on new prescription specialties in prescription department libraries. Now, more than ever, physicians will look to pharmacists for data on the composition, properties, uses, dosage, and form of the newer items.

RELABELING BY PHARMACISTS

The new proposed regulations provide that the exemption shall expire if the drug labeled for "prescription use only" is sold other than on prescription. Any person who sells such a product over-the-counter is guilty of misbranding *unless* he has relabeled it to provide adequate directions for use. In other words, if the pharmacist relabels such a product correctly and assumes the responsibility for the labeling he is not guilty of misbranding. There are certain drugs, of course, which have been designated as unsafe for self-medication and which cannot be labeled with adequate directions for use.

The purpose of the exemption is to remove the necessity for stating adequate directions for the use of a drug in its labeling if it is to be used only on prescription. If the pharmacist is in a position to relabel the drug with adequate directions

for use he cancels the need for the exemption and its expiration causes no harm.

In the case of repackaging bulk goods as, for example, dispensing four ounces of a preparation that is purchased by the gallon, if the gallon bottle is properly labeled with adequate directions for use and appropriate warnings and the pharmacist copies the label verbatim, he is safe. If he changes the wording, however, he assumes full responsibility.

The new regulations should clarify the pharmacist's thinking in regard to handling drugs which are distributed with the "prescription use only" legend. He should dispense such products only on prescription unless he is able to relabel them to provide adequate directions for use and unless he is willing to accept full responsibility for the accuracy of such labeling. Every product which goes out of the pharmacist's hands, with the exception of physician's prescriptions and those common drugs for which adequate directions are known to the ordinary individual, *must be labeled with adequate directions for use*. It is the view of government officials that no product should go out over the counter and reach the user's hands bearing on its label the statement, "Caution: To be used only by or on the prescription of a physician."

GOVERNMENT NEEDS PHARMACOLOGISTS

Pharmacologists are needed to fill positions in the Federal Government. The United States Civil Service Commission has announced that applications for these positions will be rated as received at its Washington office until December 31, 1941.

There are four grades of positions with salaries ranging from \$2600 to \$4600 a year, less a retirement deduction of 3½ percent. Positions of Junior Pharmacologist and Junior Toxicologist may also be filled from the registers of this examination by certification of appropriate eligibles who are willing to accept the salary of \$2000 a year.

The duties of these positions include planning or conducting research upon the pharmacological

or toxicological action of organic or inorganic substances, and examining imported or domestically manufactured drugs to determine their strength and purity. Applicants must have completed a 4-year college course with major study in pharmacology, toxicology, biochemistry, pharmacy, or other closely related subjects. In addition, appropriate experience in scientific investigative work is required. Partial substitution of certain graduate study may be made for the required experience.

Further information and application forms may be obtained from the Secretary of the Board of U. S. Civil Service Examiners at any first- or second-class post office, or from the U. S. Civil Service Commission, Washington, D. C.

EISENTRAUT'S WINS PHARMACY WEEK WINDOW CONTEST

EISENTRAUT'S Pharmacy, of Des Moines, has been awarded the Grand Prize in the 1940 National Pharmacy Week Window Display Contest, according to the announcement of John E. O'Brien, chairman of the ASSOCIATION'S Pharmacy Week Committee. The winning window depicted a century of progress in the profession, contrasting the apothecary shop of 1840 with the modern pharmacy of 1940.

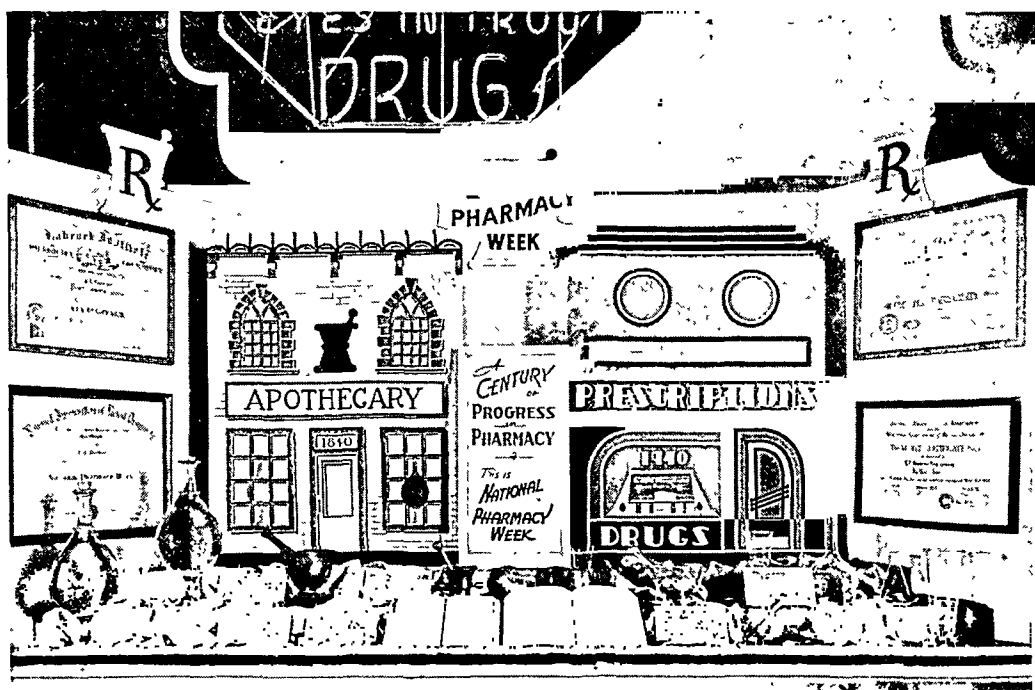
Honorable Mention Awards were made to the Speicher-Grady Company, Johnstown, Pa.; O. U. Sisson, Chicago; Weber & Judd, Rochester Minn.; Webb and Rogers, San Rafael, Cal.; Mozer's Pharmacy, Denver; E. Cermak, Omaha; Mills Drug, Rapid City, S. D.; Frank Nau, Portland, Ore.; Hay's Drug Store, Portland,

Me.; and Schrader's Pharmacy, Baltimore. Thirty-one States submitted displays.

Awards for the Association Group went to the Ohio Valley Druggist's Association; the Dayton Retail Druggist's Association and the Pennsylvania State Pharmaceutical Association. Awards in the College Group went to the Louisville College of Pharmacy; the College of Pharmacy of Columbia University; and the Philadelphia College of Pharmacy and Science.

THE WINNER

Llewellyn L. Eisentraut, who conceived and constructed the winning display, has received national recognition for his Pharmacy Week



*This Display is our Contribution
to National Pharmacy Week*

The display which won the Grand Prize for 1940.



Above. Mr. Eisentraut and his son in the prescription department.

windows six times during the past nine years but this is the first time he has won the Grand Prize of the F. W. D. A. cup.

"Pharmacy Week windows are not a contest with us, however," says Mr. Eisentraut. "They are a method through which we can dramatize our profession and convey to the public an impression of our professional character.

"We attribute our continual increase in prescription practice to the effectiveness of our

efforts to impress upon our customers the fact that we consider our prescription practice and supplying family medicines the most important phase of our business."

Mr. Eisentraut has served the Polk County Retail Druggists Association as president for one year and as secretary for two years. He is at present a member of the legislative committee of his State pharmaceutical association, serving his second term.

Below: General view of Eisentraut's Pharmacy showing visible prescription room.





In the living quarters of one narcotic addict government agents found 235 empty paregoric bottles, originally containing a total of 334 ounces purchased from 74 drug stores over a period of three months.

PAREGORIC IS A PUBLIC ENEMY

by H. J. ANSLINGER

COMMISSIONER, U. S. BUREAU OF NARCOTICS

**DIVERSION BY ADDICTS AND
NEED FOR CONSERVING THE
COUNTRY'S STOCKS OF OPIUM
DEMAND PROMPT ELIMINATION
OF ALL EXEMPT NARCOTICS
BUT CODEINE PREPARATIONS**

IN MY many years of experience in the regulation of narcotic drugs I have found no group more law-abiding than the pharmacists of America. They have consistently shown a true consciousness of their obligations in the handling of narcotics. It is decidedly significant that with more than 51,000 pharmacies registered under the federal narcotic laws we seldom find it necessary to report to state boards of pharmacy more than sixteen or seventeen cases of violations by such registrants in the course of a year. If every group registered to engage in some phase of narcotic production or distribution were as law-abiding as this the job of regulating narcotics would be relatively easy.

I am anxious that this record shall be kept clean. Yet, it is being threatened to-day by a condition for which the pharmacist is in no way responsible but against which he must be alert to protect himself.

As we have been successful in cutting off the illicit supply of one narcotic, addicts have found

ways and means of using some other narcotic and it has been our job to keep plugging up these leaks as fast as they are discovered. Each step in the process brings us nearer to our goal of complete control but has brought new problems with which to contend. As it has become harder and harder for the addict to obtain narcotics he has become more desperate in his efforts to thwart the law and more ingenious in his methods of satisfying his craving.

To-day the problem is with paregoric. Addicts have perfected a simple method of "cracking" this preparation to obtain an extract which can be injected with a syringe and needle.

We are raiding the living quarters of such addicts and finding hundreds of empty one- and two-ounce paregoric bottles bearing druggists' labels. The illustration which accompanies this article shows a group of 235 such bottles, originally containing 334 ounces of paregoric purchased by an addict from 74 drug stores over a period of three months.

Under the present law the pharmacist is a co-victim with society to this growing menace. In practically every state the law permits the purchase of paregoric over the counter. Knowing this, addicts flock to the drug store and on the pharmacist falls the burden in each instance of deciding whether to make the sale or whether to

refuse. If he does not know the would-be purchaser he runs the risk of inconveniencing and offending a legitimate customer. Even when the purchaser looks honest and respectable and the quantity requested is not of itself suspicious he may yet be victimized since it is often not the addict himself who makes the purchase. Even if the druggist is careful not to repeat a sale to the same person, this still does not prevent the abuse, since the addict, schooled in the tricks of his fellows, makes a point of approaching a different pharmacist on each return trip. Moreover, in some of our larger cities an addict could buy two ounces every day and yet never visit the same pharmacy twice within a year.

This new practice has increased the consumption of paregoric tremendously. Fifteen times more paregoric per capita is being sold in the United States than in Canada

CONSERVATION OF OPIUM

This situation has been slowly developing for a number of years but it has become a pressing problem to-day because the present world conditions make it imperative that we conserve our reserve stocks of opium and coca leaves for legitimate medical needs.

It has therefore become necessary, in our opinion, to remove paregoric and other preparations which might be diverted to illicit uses from the exemption provision of State narcotic acts and the Federal narcotic act. I have written a letter to the Governor of every state which has a Uniform Narcotic Act setting forth the essential points of the present situation and soliciting his cooperation in amending the law of his state to make it read as follows:

Section 8 (*Preparations exempted*). Except as otherwise in this act specifically provided, this act shall not apply to the following cases:

Administering, dispensing, or selling at retail of any medicinal preparations that contain in one fluid ounce, or if a solid or semi-solid preparation, in one avoirdupois ounce, not more than one grain of codeine or of any of its salts

The exemption authorized by this section shall be subject to the following conditions: (1) that the medicinal preparation administered, dispensed, or sold, shall contain, in addition to the narcotic drug in it, some drug or drugs conferring upon it medicinal qualities other than those possessed by the narcotic drug alone; and (2) that such preparations shall be administered, dispensed, and sold

in good faith as a medicine, and not for the purpose of evading the provisions of this Act.

Nothing in this section shall be construed to limit the quantity of codeine or of any of its salts that may be prescribed, administered, dispensed, or sold, to any person or for the use of any person or animal, when it is prescribed, administered, dispensed or sold in compliance with the general provisions of this Act.

A similar amendment to the federal narcotic laws will be introduced in Congress as soon as possible.

THE CASE OF CODEINE

Why do we propose to exempt preparations containing not more than one grain of codeine to the ounce?

In the first place, we have no evidence of diversion of exempt preparations containing codeine, and our investigations have yet to reveal any practical method of obtaining the codeine from the type of preparations in which it is largely used.

Secondly, we believe that codeine in small quantities is necessary in an effective cough



Blackstone Studios

H. J. ANSLINGER



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Druggists' Digest

OF NEW FORMULAS, RECENT PHARMACEUTICAL DEVELOPMENTS, AND OTHER PROFESSIONAL DATA

DANGERS OF MINERAL OIL IN NOSE DROPS

Alarmed by the increasing number of reports of "lipid pneumonia" caused by the entrance of oil into the lungs, the Council on Pharmacy and Chemistry of the American Medical Association has published a new report by Paul R. Cannon, M.D., of the Department of Pathology, University of Chicago (*Jour. A. M. A.*, 115, 2176-2179). Past reports have indicated that the aspiration of oils is dangerous primarily in the case of children and debilitated, aged adults, but Dr. Cannon has found that healthy adults also are susceptible. Diagnosis is difficult and in many cases the condition is not discovered until microscopic examination of the lungs after death. Although oils taken by mouth sometimes enter the trachea and reach the lungs, the chief target of the A. M. A. report is liquid petrolatum used as a vehicle for medicated nasal drops because, since this substance cannot be metabolized by the body, it remains as a foreign body irritant in the lungs.

The report should be heeded by pharmacists. They might well do the following:

- (1) Suggest the prescribing of aqueous solutions or medicated inhalers to relieve nasal congestions.
- (2) If the physician insists upon an oily base, suggest the use of relatively non-toxic vegetable oils such as olive oil, cottonseed oil, or poppy seed oil instead of liquid petrolatum.
- (3) Caution customers not to use oily nasal drops immediately before retiring since lying in a prone position favors the gravitation of oil into the lungs.
- (4) Urge mothers to exercise great care in administering cod liver oil or liquid petrolatum to children; to give small, divided doses; to use vitamin concentrates in place of cod liver oil; to avoid forcible administration while the child is

crying; cautioning the mother not to feed debilitated infants while they are lying on their backs; and urging her not to prop the nursing bottle on a pillow with the nipple in the baby's mouth.

"Lipid pneumonia," says Dr. Cannon, "being essentially a man-made disease, can be prevented largely by the extent to which the conditions now known to favor its development are eliminated."

SULFANILAMIDE OINTMENT

Physicians who have been using sulfanilamide topically may be expected to prescribe an ointment of this drug, the formula for which appeared in the Queries and Minor Notes section of the *Journal of the American Medical Association* for January 25th. The ointment is described as suitable for use on surface wounds or on mucous membrane surfaces such as the conjunctivas. The formula is as follows:

Sulfanilamide.....	10 Gm.
Hot Water (almost boiling).....	25 cc.
Dissolve and Filter	

Sodium Alginate.....	4 Gm.
Boiling Water.....	75 cc.
Emulsify and strain through fine gauze.	

Add the sulfanilamide solution to the sodium alginate suspension and incorporate the mixture in the following base:

Anhydrous Wool Fat	16 Gm.
Sodium Chloride.....	1 Gm.
dissolved in water.....	4 cc.
White Petrolatum.....	78 Gm.

Sodium Alginate is a colloidal substance obtained from seaweed and is available from R. F. Revson Company, 91 Seventh Avenue, New York, N. Y.

syrup and we do not want either to ban the sale of these products or to decrease their therapeutic value if we can possibly avoid it.

YOUR COÖPERATION

Frankly, there is considerable evidence to support the belief that paregoric never should be administered except on the instructions of a physician and I feel also that most conditions in which lead and opium wash is indicated are sufficiently serious to need the care of a doctor.

For several years the pharmacists of the District of Columbia and California have not sold paregoric except on prescription and they have felt no hardship.

However, hardship or no hardship, this change is necessary in order to eliminate the illicit con-

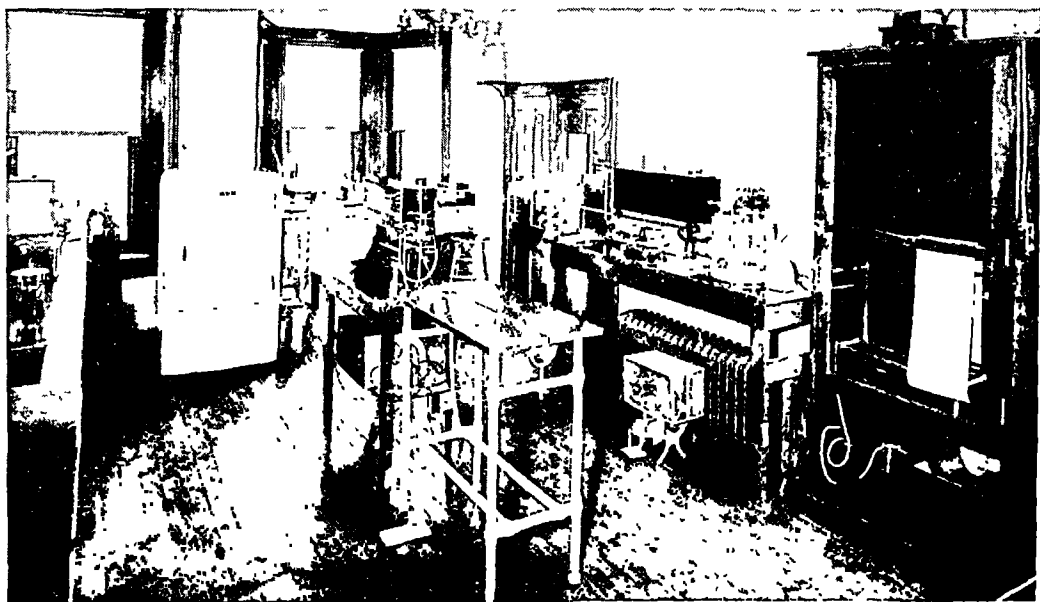
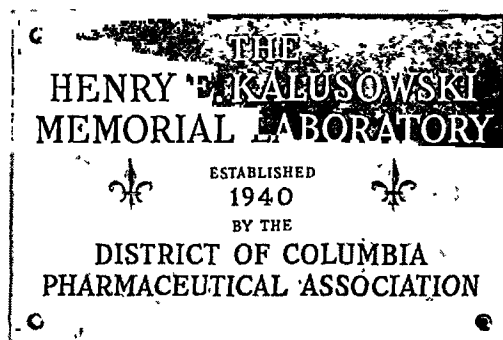
sumption which is unnecessarily depleting our reserves of opium at a time when they are difficult to replace due to world conditions.

The big job of our Bureau is to track the addict, and right now his path leads in and out of retail drug stores. I am sure that you do not seek his patronage. You do not even want him to come into your pharmacy for he not only is usually a shoplifter and general thief, but frequently is a more dangerous, vicious criminal. The elimination of the sale of paregoric over the counter will remove his primary reason for coming to your store and to that extent will be a protection and a relief to you.

I ask your careful consideration of the conditions which have made this step necessary and I request your cooperation in effecting the change.

D. C. PHARMACISTS DEDICATE LABORATORY

New laboratory of the George Washington University School of Pharmacy, established by the District of Columbia Pharmaceutical Association and dedicated to Henry E. Kalusowski, former Dean of the school. Dedication ceremonies were held on January 24th when Cloyd Heck Marvin, President of the University, accepted the gift.



tologists as you serve. It is a soothing ointment with a mild astringent action and may be suggested for use in the sub-acute state of such dermatoses as irritant dermatitis and weeping eczemas when the lesions begin to dry. Compresses of Solution of Aluminum Subacetate (1-10) which are used in acute conditions may be substituted by the Ointment of Aluminum Subacetate when drying is noticed. It is less cumbersome and easier to apply than the continuance of a compress. The patient need not stay away from his employment, after the acute symptoms subside, to continue the desired therapy of aluminum subacetate with the added beneficial, soothing, and softening effects of lanolin and petrolatum. If a more drying ointment is desired, half of the lanolin and petrolatum may be replaced with zinc oxide ointment using the following formula:

Solution of Aluminum Subacetate	12 cc
Distilled Water..	12 cc
Ointment of Zinc Oxide	38 Gm.
Anhydrous Lanolin	9 5 Gm
White Petrolatum	28 5 Gm.

—N. F. Bull. 9, 64 (1940)

VETERINARY SKIN LOTION

Several years ago Dr. S. L. Hilton, of Washington, D. C., working in conjunction with a veterinarian, developed a mixture of resorcin, salicylic acid, menthol, and methyl salicylate for the treatment of various skin conditions of the eczema type in animals. Its use among veterinarians has grown until to-day Dr. Hilton makes it in gallon quantities. He has suggested it for inclusion in the National Formulary, made according to the following formula

Alcohol	50 0 cc
Glycerin.....	200 0 cc
Tragacanth (ribbons)	8 0 Gm
Menthol.....	2 0 Gm
Methyl Salicylate	2 0 cc
Salicylic Acid...	10 0 Gm
Resorcin.....	20 0 Gm
Distilled Water, q. s.	1000 0 cc.

Add 200 cc. of water to the tragacanth and allow to stand for 48 hours, stirring occasionally. Dissolve the menthol and salicylic acid in the alcohol. Dissolve the resorcin in 200 cc. of

water. To the tragacanth jelly add the glycerin, mix thoroughly, add the alcoholic solution and after mixing, add the solution of resorcin and a sufficient quantity of water to make 1000 cc. After mixing, pass through a homogenizer.

NEW MEMBER OF N. F. COMMITTEE

Harvey B. Haag, Ph.G., B.S. in Pharm., M.D., Professor of Pharmacology of the Medical College of Virginia, Richmond, has been elected to the Committee on National Formulary by the Council of THE AMERICAN PHARMACEUTICAL ASSOCIATION. He succeeds Dr. Bernard Fantus, deceased, and will serve as chairman of the Sub-committee on Pharmacology and Posology.

The National Formulary is fortunate in securing the services of Dr. Haag, for his training in both pharmacy and medicine will enable him to be of inestimable assistance in the revision work. Dr. Haag has made between forty-five and fifty original contributions to the literature of pharmacology and his work during the past few years on the toxicity and irritant properties of tobacco smoke has won widespread recognition.



Photo by Schuyler Studios

DR. HARVEY B. HAAG

DISINFECTING SHOES AND SOCKS AFTER ATHLETE'S FOOT

Always a problem during and after a siege of athlete's foot is how to disinfect the contaminated shoes and stockings to prevent reinfection of the feet and the prolongation of the disease condition. Pharmacists should be in a position to give competent advice on this subject and some may be interested in rendering their customers a "disinfecting service" for shoes. Information published in a recent issue of the *Journal of the American Medical Association* recommends the following methods of disinfection:

Cotton socks should be boiled for ten minutes or immersed for one-half hour in a 1:1000 solution of bichloride of mercury and rinsed. Wool and silk stockings, which may be damaged by boiling, should be placed in a covered box containing a dish of Solution of Formaldehyde, left in the vapor for twenty-four hours and aired for at least twenty-four hours.

Shoes may be placed in a closed box with a dish of Solution of Formaldehyde, left for twenty-four hours, and then aired for twenty-four hours; they can be sponged with a ten per cent solution of Formaldehyde and then aired for twenty-four hours; or they may be sprayed with Solution of Formaldehyde, using an atomizer, once a day for three days. One spray in the toe of the shoe and one in the heel is sufficient for each application. If the shoes are sprayed they should not be worn for at least eight hours after the last treatment. Formaldehyde vapor is irritating to the eyes, the respiratory tract, and the skin so the spraying should be done in a well ventilated room, the hands covered with rubber gloves and the shoes held well away from the face.

SULFATHIAZOLE IS COUNCIL-ACCEPTED

The Council on Pharmacy and Chemistry of the American Medical Association has accepted sulfathiazole for admission to New and Non-official Remedies and has recognized the brands of Lederle, Maltbie, Merck, Squibb, and Winthrop.

In accepting this third member of the sulfonamide family, the Council recognized its use in

the treatment of pneumococcic pneumonia, several infections due to *Staphylococcus aureus*; tissue infections produced by *E. coli*; and gonorrhea in the male. Like sulfanilamide, it appears to render the blood, spinal fluid, urine, and other tissue fluids unfavorable as a medium for supporting the active multiplication of susceptible bacteria and thus the tissue invasion of these organisms is prevented, the production of toxic substances reduced, and the antibacterial immune mechanisms of the body are permitted to complete the recovery from the infection.

Pharmacists should note that sulfathiazole occurs as a white, practically odorless and tasteless, crystalline powder. It is soluble in hot water, hot ethyl, methyl and isopropyl alcohols, glacial acetic acid pyridine, dilute mineral acids, and alkali metal hydroxides and carbonate solutions. It is moderately soluble in hot acetone. It is slightly soluble in ethyl, methyl, and isopropyl alcohols. It is very slightly soluble in water. It is insoluble in benzene, chloroform, ether, ethyl acetate, and ethylene dichloride.

To the best of present knowledge, sulfathiazole can be used concurrently with any drugs with the possible exception of magnesium sulfate and other saline laxatives.

AN ALUMINUM SUBACETATE OINTMENT

A new one per cent aluminum subacetate ointment for use in the sub-acute state of various skin conditions when the lesions begin to dry has been developed in the Skin Clinics of the Cook County Hospital, Chicago, by H. A. Dyniewicz, of the University of Illinois College of Medicine, and is being considered for the N. F. The formula for the new ointment is as follows:

Solution of Aluminum Subacetate...	12 cc.
Distilled Water.....	12 cc.
Anhydrous Lanolin.....	19 Gm.
White Petrolatum.....	57 Gm.

Triturate the lanolin and petrolatum in a mortar and add the mixture of the Solution of Aluminum Subacetate and distilled water in divided portions, triturating after each addition.

Here is a preparation which will interest your general practitioners as well as such derma-

tologists as you serve. It is a soothing ointment with a mild astringent action and may be suggested for use in the sub-acute state of such dermatoses as irritant dermatitis and weeping eczemas when the lesions begin to dry. Compresses of Solution of Aluminum Subacetate (1-10) which are used in acute conditions may be substituted by the Ointment of Aluminum Subacetate when drying is noticed. It is less cumbersome and easier to apply than the continuance of a compress. The patient need not stay away from his employment, after the acute symptoms subside, to continue the desired therapy of aluminum subacetate with the added beneficial, soothing, and softening effects of lanolin and petrolatum. If a more drying ointment is desired, half of the lanolin and petrolatum may be replaced with zinc oxide ointment using the following formula:

Solution of Aluminum Subacetate.	12 cc.
Distilled Water.....	12 cc.
Ointment of Zinc Oxide.....	38 Gm.
Anhydrous Lanolin.....	9.5 Gm.
White Petrolatum.....	28.5 Gm.

—*N. F. Bull.* 9, 64 (1940)

water. To the tragacanth jelly add the glycerin, mix thoroughly, add the alcoholic solution and after mixing, add the solution of resorcin and a sufficient quantity of water to make 1000 cc. After mixing, pass through a homogenizer.

NEW MEMBER OF N. F. COMMITTEE

Harvey B. Haag, Ph.G., B.S. in Pharm., M.D., Professor of Pharmacology of the Medical College of Virginia, Richmond, has been elected to the Committee on National Formulary by the Council of THE AMERICAN PHARMACEUTICAL ASSOCIATION. He succeeds Dr. Bernard Fantus, deceased, and will serve as chairman of the Sub-committee on Pharmacology and Posology.

The National Formulary is fortunate in securing the services of Dr. Haag, for his training in both pharmacy and medicine will enable him to be of inestimable assistance in the revision work. Dr. Haag has made between forty-five and fifty original contributions to the literature of pharmacology and his work during the past few years on the toxicity and irritant properties of tobacco smoke has won widespread recognition.

VETERINARY SKIN LOTION

Several years ago Dr. S. L. Hilton, of Washington, D. C., working in conjunction with a veterinarian, developed a mixture of resorcin, salicylic acid, menthol, and methyl salicylate for the treatment of various skin conditions of the eczema type in animals. Its use among veterinarians has grown until to-day Dr. Hilton makes it in gallon quantities. He has suggested it for inclusion in the National Formulary, made according to the following formula:

Alcohol.....	50.0 cc.
Glycerin.....	200.0 cc.
Tragacanth (ribbons).....	8.0 Gm.
Menthol.....	2.0 Gm.
Methyl Salicylate.....	2.0 cc.
Salicylic Acid.....	10.0 Gm.
Resorcin.....	20.0 Gm.
Distilled Water, q. s.....	1000.0 cc.

Add 200 cc. of water to the tragacanth and allow to stand for 48 hours, stirring occasionally. Dissolve the menthol and salicylic acid in the alcohol. Dissolve the resorcin in 200 cc. of



Photo by Schuyler Studios

DR. HARVEY B. HAAG

NEW SURVEY OF PRESCRIPTION INGREDIENTS

Sodium salicylate is the most frequently prescribed drug in Lafayette, Indiana, according to a new survey made by R. E. Heine and C. O. Lee, of the School of Pharmacy, Purdue University, published in the February Bulletin of the National Formulary. This drug, always prescribed in combination and never alone, occurred 502.6 times per 10,000 prescriptions. Next in popularity were the following:

Codeine sulfate, used 464.5 times.
Compound Elixir of Pepsin, used 398.43 times.
Acetophenetidin, used 302.08 times.
Sodium Bromide, used 257.81 times.
Tincture of Nux Vomica, used 233.75 times.
Empirin Compound with Codeine Phosphate, used 222.9 times.
Ammonium Chloride, used 221.87 times.
Citratd Caffeine, used 218.75 times.
Cheracol, used 217.18 times.
Acetylsalicylic Acid, used 211.97 times.
A. S. A. and Codeine Compound, used 206.77 times.
Morphine Sulfate Tablets, used 201.55 times.

(Note: If Empirin Compound and Codeine Phosphate and A. S. A. and Codeine Compound had been classed as one item it would have ranked third on the list.)

The survey covered 19,242 new and 15,851 refill prescriptions (35,093 total) filled in five pharmacies. Two were neighborhood pharmacies, two were downtown stores, and one was in an outlying business district.

A total of 689 items were found in these prescriptions but only 35 percent of these occurred more than ten times per 10,000 prescriptions.

Of the 19,242 new prescriptions 12,767 were classed as narcotic.

Of the 689 items used in the 35,093 prescriptions, 54.13 percent were proprietary. In the U. S. P.-N. F. Survey of 1931-1932, 41.07 percent of the ingredients were proprietary.

ABSORBENT OINTMENT BASE

An ointment base which will absorb up to an equal weight of liquid without separating on standing may be made by adding one part of anhydrous lanolin to three parts of white petrolatum, according to H. A. Dyniewicz, of the University of Illinois College of Medicine, who developed the preparation for use in the Cook County Hospital Skin Clinics and has named it "Hydrophile Petrolatum."

—N. F. Bull. 9, 65 (1940)

LIQUEFYING OINTMENTS

Substituting a gel, consisting of one part of hydroxystearic acid with four parts of heavy liquid petrolatum, for the wax or other solidifier in ointments, George W. Fiero, of the School of Pharmacy of the University of Buffalo, has reported the development of a jellified ointment of soft consistency which liquefies when placed on the skin but remains solid at ordinary temperatures.

The amount of hydroxystearic acid varies with the consistency desired and with the medicament. For example, in ointments containing considerable volatile oil, such as compound menthol ointment, more hydroxystearic acid is necessary.

The method of preparing the ointments consists of dissolving or incorporating the medicament with the liquid petrolatum and adding the molten 20% solution of hydroxystearic acid in liquid petrolatum. If the amount of the acid solution is small, the liquid petrolatum solution is also warmed. Upon cooling, a jellified product results; agitation is not necessary if the material is soluble in the liquid petrolatum. If

← PICTURE OF THE MONTH

From the coke ovens of steel mills engineers are recovering pyridine, formerly a bothersome impurity but now of value in the manufacture of sulfapyridine. New processes which provide for the continuous removal of this oven deposit permit a 95 percent recovery.

Photo by Charles Phelps Cushing.

the material is insoluble, as for example, zinc oxide, agitation is necessary while cooling to prevent separation of the solid. If desired, the medicament may be incorporated with the solidified jelly prepared by warming the liquid petrolatum and adding the acid solution to this. A stock jellified liquid petrolatum may be prepared and used in the same manner as white petrolatum. The following examples are chosen to illustrate pharmaceutical compatibility and are not chosen for therapeutic fitness.

- Camphor Ointment:* camphor 22 Gm., liquid petrolatum 72 Gm., 20% acid 6 Gm.
- Capsicum Ointment:* oleoresin of capsicum 5 Gm., petrolatum 85 Gm., 20% acid 10 Gm.
- Compound Menthol Ointment:* menthol 10 Gm, methyl salicylate 10 Gm., liquid petrolatum 65 Gm., 20% acid 15 Gm.
- Ichthammol Ointment:* ichthammol 10 Gm., liquid petrolatum 80 Gm., 20% acid 10 Gm.
- Mustard Ointment:* volatile oil of mustard 2 Gm, liquid petrolatum 88 Gm, 20% acid 10 Gm.
- Phenol Ointment:* phenol 2 Gm, liquid petrolatum 88 Gm., 20% acid 10 Gm.

The above ointments are, in the most part, materials which are more or less soluble in liquid petrolatum. The base is also satisfactory for substances which are insoluble as indicated by the following examples:

- Ammoniated Mercury Ointment:* ammoniated mercury 10 Gm., liquid petrolatum 80 Gm., 20% acid 10 Gm.
- Boric Acid Ointment:* boric acid 10 Gm., liquid petrolatum 70 Gm., 20% acid 20 Gm.
- Sulfur Ointment:* precipitated sulfur 15 Gm., liquid petrolatum 72.5 Gm., 20% acid 12.5 Gm.
- Zinc Oxide Ointment:* zinc oxide 20 Gm., liquid petrolatum 70 Gm., 20% acid 10 Gm.

Hydroxystearic acid is manufactured by the National Oil Products Company, Harrison, N. J.
—JOUR. A. PH. A., *Sci. Ed.*, 29, No. 11 (1940)

CRANBERRY SYRUP VEHICLE

The cranberry, traditional adjunct to Thanksgiving and Christmas dinners, makes an efficient vehicle for chloral hydrate, potassium acetate and ammonium chloride, according to Lubitz,

Fellers and Clague, of the Massachusetts Agricultural Experiment Station.

A syrup may be made by grinding 900 Gm. of cranberries to a medium fineness in a food chopper, allow to stand for one-half hour, strain through four layers of cheesecloth and filter through coarse filter paper. The yield is about 450 cc. of clear, sparkling juice. Bring this juice to a boil, remove from flame and add 850 Gm. of sucrose. When cool, remove surface scum. Final yield should be about 950 cc.

The syrup has a fine ruby color, a delicious flavor, and a mild, pleasant aroma. It is compatible with alcohol and retains its flavor, color and clarity for at least three months.

Tested for taste on nine individuals, it rated second to Syrup of Raspberry in palatability preference—ahead of Syrup of Orange, Cherry or Citric Acid. It ranked first as a vehicle for ammonium chloride; tied for first place with Syrup of Citric Acid as a vehicle for chloral hydrate; and tied for second place with Syrup of Citric Acid as a vehicle for potassium acetate.

Potassium acetate, sodium citrate and alkalies cause the syrup to change to a not unattractive light molasses color. Tin, iron, nickel, and copper utensils or containers cause darkening of the syrup.

Here is a new, inexpensive, easily prepared vehicle to place at the disposition of physicians.
—JOUR. A. PH. A., *Sci. Ed.*, 29, No. 7 (1940), 325

CALAMINE EMULSION

If the dermatologists you serve are looking for a smooth calamine emulsion here is one that Dr. S. L. Hilton, of Washington, D. C., has developed at the request of specialists in his neighborhood:

Tragacanth.	40 grains
Alcohol.	2 drams
Calamine	1½ ounces
Olive Oil	1½ ounces
Water, q. s.	6 ounces

Add the alcohol to the tragacanth in a bowl under an electric malted milk mixer such as is described in "Here Is How We Do It" in this issue. Slowly add the olive oil, then one-half of the water, then the calamine, and then the balance of the water.

This makes a beautiful, smooth, creamy emulsion to be dispensed in a widemouth bottle.

DIET MAY BE IMPORTANT IN SULFANILAMIDE TREATMENT

The diet of persons being treated with sulfanilamide may have an important bearing on the effects of the drug, according to Drs. M. I. Smith, R. D. Lille, and E. F. Stohlman, of the U. S. Public Health Service and the National Institute of Health, whose work with rats was reported in *Science* for January 21st.

A low protein diet, such as one which in humans would include too little meat, eggs, and milk, increased the susceptibility of the rats to sulfanilamide, raising the concentration of the drug in the blood and increasing its toxic effects.

ALKALINE PEROXIDE EFFECTIVE IN IVY POISONING

A 3 to 5 percent solution of hydrogen peroxide in 70 percent alcohol, used in conjunction with an 0.5 percent solution of sodium hydroxide in 70 percent alcohol is effective in the treatment of *Rhus Toxicodendron* poisoning, according to Ole Gisvold, formerly assistant professor of Pharmaceutical Chemistry, College of Pharmacy, University of Minnesota, Minneapolis, now at the College of Pharmacy of Ohio State University, Columbus, O. The peroxide solution was prepared by diluting a 28 percent hydrogen peroxide solution.

Various adsorbents, precipitants, and oxidants including lead acetate, barium hydroxide, aluminum subacetate, aluminum acetate, magnesium acetate, ferric chloride, cupric acetate, aluminum oxide, magnesium oxide, prepared calamine, and alkaline peroxide were tested against a 70 percent alcoholic solution of physiologically-active phenols found in the milky exudate of the poison ivy leaves. Although many of these chemicals formed precipitates, adsorbates, and oxidants with the ivy phenols, these resultant products were active when rubbed on the skin, some just as active as the original ivy extract. The combination of the hydrogen peroxide solution and alcoholic solution of sodium hydroxide rendered the ivy phenols inactive.

Testing it on himself, Mr. Gisvold first sponged the effected areas with the alkali solution and then with the peroxide solution. After a few minutes the alkali was neutralized with a weak

solution of acetic acid. One such treatment a day for two or three days appeared sufficient to destroy the ivy phenol and prevent it from spreading, if the lesions were not too deep-seated. Where the lesions were quite deep the treatment was somewhat painful, but the pain was of short duration.

—JOUR. A. PH. A., *Sci. Ed.*, 30, No. 17 (1941)

NEW EDITOR OF PRACTICAL EDITION

On January 1st Robert William Rodman assumed the full-time editorship of the Practical Pharmacy Edition of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION. This is the first issue published under his direction. Mr. Rodman was graduated by the Rutgers University College of Pharmacy, Newark, N. J., in 1928 and has had several years of practical drug store experience. He was a member of the editorial staff of *Druggists Circular* for the past eleven and a half years, occupying the position of managing editor at the time of its change of ownership last November. For several years he has been chairman of the Association's Press Relations Committee and last June he was elected to the Pharmaceutical Recipe Book Committee.



ROBERT W. RODMAN

NEW PRESCRIPTION SPECIALTIES

ORAL MALE HORMONE

Three manufacturers have announced the introduction of methyl testosterone, $C_{20}H_{30}O_2$, an orally-effective form of the synthetic male sex hormone. It is $\frac{1}{3}$ to $\frac{1}{5}$ as effective as is testosterone propionate by injection and consequently, 3 to 5 times as much, by weight, must be given to produce the same effect.

The oral male sex hormone is used in the treatment of impotence due to androgenic deficiency; of hypogonadism in doses of 5 to 10 tablets daily; and in the male climacteric in doses of 2 to 5 tablets daily. In the female it is used in the suppression of lactation.

The new oral form is available under the following trademarked names:

METANDREN, boxes of fifteen 10 mg. scored tablets, costing \$4.00 a box; bottles of thirty tablets, costing \$7.20 a bottle; and bottles of one hundred tablets, costing \$21.10 a bottle. *Ciba Pharmaceutical Products, Inc., Summit, N. J.*

NEO-HOMBREOL-M, boxes of fifteen 10 mg. tablets, costing \$4.00 a box, and boxes of 30 tablets costing \$7.20 a box. *Roche-Organon, Inc., Nutley, N. J.*

ORETON-M, boxes of fifteen 10 mg. tablets, costing \$4.00 a box, boxes of 30 tablets costing \$7.20 a package; and boxes of 100 tablets costing \$21.10 a package. *Schering Corp., Bloomfield, N. J.*



SUPER A VITAMIN CONCENTRATE

Satisfactorily meets the demand for a potent vitamin A preparation for treating borderline states of vitamin A deficiency such as night blindness and hyperkeratosis of the skin and also to supplement diets low or deficient in vitamin A.

Super A Vitamin Concentrate, derived from fish liver oils, contains approximately 25,000 U. S. P. units of vitamin A and 300 U. S. P. units of vitamin D per capsule. One or more may be given daily depending upon the condition.

They are offered in bottles of 100 capsules which cost the pharmacist \$1.75 per bottle.

The Upjohn Company, Kalamazoo, Mich.

TOFAXIN

Alpha tocopherol, vitamin E, has received recognition in the treatment of habitual and threatened abortion and certain neuromuscular diseases, particularly amyotrophic lateral sclerosis and muscular dystrophy.

Tofaxin is a stable, biologically assayed distillate of vegetable oils, containing alpha, beta, and gamma tocopherols. Each 50 mg. capsule is the equivalent of 30 mg. of alpha tocopherol.

In habitual abortion, one or two capsules are given daily throughout pregnancy; in threatened abortion, up to five capsules daily; in neuromuscular diseases, from two to five capsules daily.

Tofaxin is offered in bottles of 50 capsules which cost the pharmacist \$3.44 per bottle.

Winthrop Chemical Company, New York, N. Y.



NALUTRONE

The corpus luteum hormone or progesterone is a most important factor in the second half of the menstrual cycle. After rupture of the follicle and ovulation this hormone maintains favorable conditions in the uterus for the reception of the ovum in the event of fertilization. This consists of glandular and cellular changes which favor nidation. If conception does not occur, the corpus luteum degenerates and menstruation takes place. Should fertilization of the ovum occur the corpus luteum continues to elaborate its hormone until this function is taken over later by the placenta. If the corpus luteum degenerates prematurely, however, uterine contractions begin, bleeding occurs and abortion threatens.

Nalutrone (Brand of PROGESTERONE) is a pure synthetic corpus luteum hormone, identical with the natural hormone in its biologic and chemical properties.

It is used in the treatment of habitual and threatened abortion, dysmenorrhea, menorrhagia and metrorrhagia, pre-eclamptic toxemia, sterility due to insufficient endometrial development, and in premenstrual tension.

Nalutrone is supplied in boxes of five 1 cc. ampules containing 1 mg., 2 mg., or 5 mg. in oil, costing the pharmacist \$2.75; \$4.75; and \$8.25 per box, respectively.

Winthrop Chemical Company, New York, N. Y.

TRICHOPHYTON 'U F A'

(UNDENATURED FUNGUS ANTIGEN, LILLY)

Fungus infection, such as "athlete's foot," is extremely prevalent; highly infective; very resistant to treatment; and, in addition, patients may develop a cutaneous sensitization (allergy) to the fungus. The secondary allergic lesions (ids) appear elsewhere on the skin, usually on the hands or arms.

Trichophyton 'U F A' is an undenatured antigen (trichophytin) prepared from mass cultures of *Trichophyton interdigitale*, the fungus that most often causes "athlete's foot;" it is intended for use both for the diagnosis of fungus infection and for treatment of the allergic manifestations. For diagnostic purposes, 0.1 cc. of a 1:5 dilution is injected intracutaneously on the anterior surface of the forearm, and the reaction (formation of a wheal) noted in twenty-four to forty-eight hours. After positive diagnosis, the product may be used as a therapeutic measured in gradually increasing strengths, beginning with 0.1 cc. of a 1:100,000 dilution. Reports thus far have indicated 70 percent relief of symptoms and 20 percent improvement in cases in which it has been used. Some patients are benefited after three or four injections; others require more injections.

Trichophyton 'U F A' in a jelly base is available for local desensitization and immunization.

Trichophyton 'U F A-70' is offered in concentrated form in 5-cc. vials, which cost the pharmacist 90 cents. Trichophyton 'U F A' in a jelly base ('U F A'-75) is offered in half-ounce tubes, which cost the pharmacist \$6.00 a dozen.

Eli Lilly and Company, Indianapolis, Ind.



UNICAP VITAMINS

A potent and economical source of the fat soluble vitamins, the vitamins of the B complex and vitamin C in one convenient dosage form that greatly simplifies daily vitamin supplementation.

Unicap Vitamins contain, in each capsule: vitamin A, 10,000 U. S. P. units; vitamin B₁, 500 International Units; vitamin B₂, 200 gamma; vitamin B₆, 200 gamma; vitamin C, 500 International Units; vitamin D, 1000 U. S. P. Units, and nicotinamide, 20 milligrams. One capsule per day is the usual dosage.

Unicap Vitamins are offered in packages of 24 tablets costing \$1.25 per package; and bottles of 100 tablets costing \$3.88 a bottle.

The Upjohn Company, Kalamazoo, Mich

ANAESTHESIN JELLY

The introduction into the urethral passage of the male of such instruments as catheters, sounds, urethrosopes, and cystoscopes is painful unless some form of topical anaesthesia is used.

Anaesthesin Jelly is intended for this purpose. It contains 10 percent of Anaesthesin (ethyl aminobenzoate) in a bland water-soluble, glycerin-tragacanth base of high lubricating quality. Anaesthesin is non-irritating and is slowly soluble in tissue fluids; thereby providing prolonged anesthetic action and virtual freedom from toxic effects.

Each tube is packed with a sterilizable metal urethral tip which permits the instillation of a small amount (never more than 2 drachms) of the jelly into the forepart of the urethra from whence it is forced into the posterior urethra by gentle massage. Anesthesia is usually adequate for painless instrumentation in five minutes.

Anaesthesin Jelly is supplied in boxes of three 1½ oz. collapsible tubes with detachable urethral applicator, costing the pharmacist \$1.25 per box.

Winthrop Chemical Company, New York, N. Y.



FLAVAXIN

Flavaxin is a synthetic riboflavin, vitamin B₂.

It occurs in the form of orange-yellow crystals, difficulty soluble in water, insoluble in oils and fats, soluble in acid and neutral solutions but *destroyed in alkaline solutions*. It is biologically standardized, each milligram representing 400 Bourquin-Sherman units.

It is used in the prevention and treatment of vitamin B₂ deficiency (ariboflavinosis) characterized by cheilosis, seborrheic skin lesions and various eye manifestations. It is also employed in conjunction with nicotinic acid and vitamin B₁ in the treatment of pellagra. The average adult daily requirement of riboflavin is from 2 to 3 mg., slightly increased during pregnancy and lactation; for children up to 10 years of age, 1 mg.; average therapeutic dose, 1 to 5 mg.

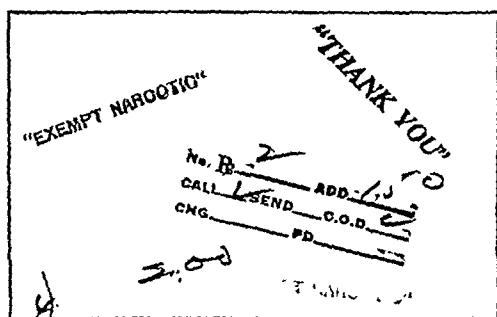
Flavaxin is supplied in crystal form in 20 mg. vials which cost \$0.38, and 100 mg. vials costing \$1.00; ampoules of 1 mg. dissolved in 2 cc. of propylene glycol and distilled water, boxes of 5 costing \$1.25; and in bottles of twenty-five 1 mg. tablets which cost \$0.50 per bottle; also bottles of twenty-five 5 mg. tablets which cost \$1.88.

Winthrop Chemical Company, New York, N. Y.

Here's how we do it!

ONE MAN "PLUS" STORE

William C. Goss, of East Orange, N. J., has an interesting solution to the problem of the one man "plus" store that doesn't fill quite enough prescriptions to keep two men busy yet fills almost too many for one man to handle alone.



He has worked out a system that makes use of the services of his woman bookkeeper. When he takes a prescription in he stamps it on the back with a rubber stamp that has spaces in which he records the number of prescriptions received from the customer, the amount of any additional charge for merchandise ordered by the customer to be called for or delivered with the prescription, whether the order is to be called for or delivered and whether it is C. O. D., charged, or paid. He also marks the price to be charged for the prescription and notes, by number, the style of label to be used for the prescription. Another stamp is used if the product contains an exempt narcotic and still another is used if it is for a new customer for which the physician should receive a "Thank you" note.

This all takes but a minute and Mr. Goss then passes the prescription to his bookkeeper through an opening in the partition which separates the office where she works and the prescription room. She types the prescription label and the delivery label and hands them back to Mr. Goss who, in

the meantime, has been filling other prescriptions. He fills in the prescription number and date and checks the directions when he fills the prescription. The bookkeeper takes care of the charges, records the exempt narcotics used, and sends out the "Thank you" notes on the following morning.

Thus Mr. Goss spends his time filling prescriptions, not in using the typewriter, and he has reduced the system to a marvel of efficiency.

CLEANING GREASY MORTARS

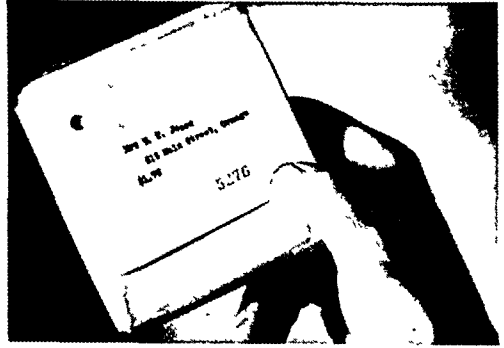
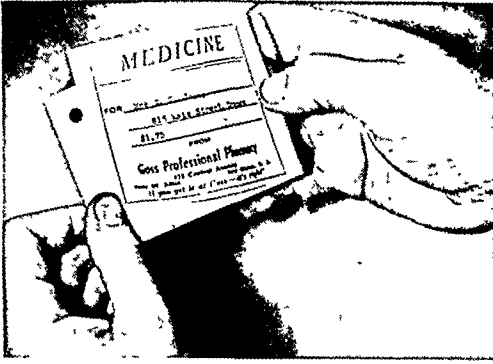
How do you remove the grease from the mortar and pestle after you have prepared an ointment?

Sawdust works wonders. Keep it near the sink in a tin container made from a castor oil can. Plunge the mortar and pestle in the box and clean them with a handful of sawdust, then wash as usual.

MAKING BOUGIES

Because bougies are not frequently prescribed, little attention is paid to them in textbooks and magazine articles. Here is an easy method of preparing them. Try it next time you have a prescription.

Make the mass as usual but instead of chilling it and then rolling the bougies out by hand, place the mass in an ointment tube. Leave the cap on and roll up the end of the tube to pack the mass tightly. Then take off the cap and with a firm, even motion, squeeze out the bougies to the proper length, cut them, and then chill them. With this method you get a far superior, more-uniform product than you do if you roll them by hand.



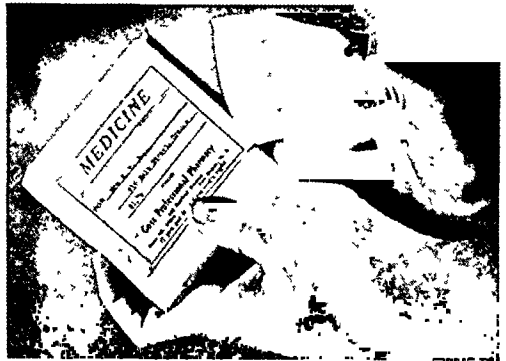
DELIVERY LABEL RECORD

Here is a unique delivery label-record system used by William C. Goss, of East Orange, N. J.

The label is double and scored down the fold on the right-hand edge. It is $3\frac{3}{4}$ " x $2\frac{3}{4}$ " folded. With carbon paper inserted, the label is typed with the customer's name and address, the price, and whether it is to be charged or paid for.

The fold is reversed and the printed section pasted to the package.

When the delivery is made, at the counter or at the home, the carbon copy half is torn off, returned to the prescription room and filed for a record of the consummation of the transaction.



A REFILL REFERENCE

Do you shudder when a customer comes in and says, "Will you refill that prescription I had for nose drops last winter? I threw the bottle away by mistake but I thought you could probably find it."

You can save yourself a lot of time and annoyance if you keep an up-to-date cross reference book of refills. Buy a record book with alphabetical pages and list refills by the patient's name. When Mrs. Brown wants a prescription refilled and she has lost the bottle, you merely turn to the "B" pages and read "Brown, Mrs. W. C., 1/10/39, 1164; 6/5/39, 8764; 6/15/40, 17014." No more checking your files prescription by prescription.

If you have a bookkeeper, let her enter the day's prescriptions the following morning. If you have an apprentice or a registered man, assign the task to him in his spare time. If you have neither, keep the records yourself but don't let them get behind.

NARCOTIC RECORD

How do you keep your records of narcotics dispensed on prescription?

Why not type them on the back of your copy of narcotic purchase invoices? When you bind the invoices you have a complete record, in one place, of receipts and disbursements of narcotics.

BIOLOGICAL REMINDER

Don't trust the delivery boy's memory to tell the customer to keep his biological product prescription in the refrigerator. A simple sticker

BIOLOGICAL PRODUCT

REFRIGERATE IMMEDIATELY

1" x $3\frac{3}{4}$ " such as that shown will do the trick and represents a "fine point" in prescription packaging service.

CREDIT			McNULTY'S PHARMACY Montclair, N. J.
		Date _____	
Cash <input type="checkbox"/>	Check <input type="checkbox"/>	Merchandise <input type="checkbox"/>	
to account of			
Name _____			
Address _____			
Town _____			
Amount _____			

PAID OUT		Date _____
TO _____		
FOR _____		
_____ (Signature)		

BOOKKEEPING AIDS

McNulty's Pharmacy, of Montclair, N. J., uses two simple aids for recording payments of bills, returned merchandise for credit, and expenditures from the cash register.

When a customer pays a bill or returns merchandise for credit, a red CREDIT slip, 6" x 3¹/₄" is filled out with the date, customer's name and address, amount involved, and particulars of cash, check, or merchandise return.

When money from the cash drawer is used to pay for a purchase a pink PAID OUT slip 6" x 2³/₄" is filled out with the date, name of person to whom the money is paid, and the amount. The person receiving the money signs the slip.

AN UNUSUAL DISPLAY

An individualized prescription display made with a series of six discs, 18 to 24 inches in diameter, was described by Charles Ely, of the College of Pharmacy of the Detroit Institute of Technology, before the Section on Pharmaceutical Economics of THE AMERICAN PHARMACEUTICAL ASSOCIATION in Richmond, last May.

The discs are sawed from a sheet of Celotex, shellaced, and given a coat of white or canary-yellow, non-gloss paint. Each disc is suspended from the ceiling of the window by either ribbon or thread. The first disc is placed in the front center of the window about a foot from the floor slanting slightly toward the window. A disc is suspended on either side of the center disc, slanting a bit more, and about 15 inches from the floor. A disc is suspended from each rear corner of the window at a 45-degree angle to the passerby. The sixth disc is suspended in the rear cen-

ter, perpendicularly. A Birdeye spotlight is trained on each disc.

On Disc No. 1, place a medical book with a caption pertaining to knowledge. On disc No. 2, place a doctor's prescription with a caption, "The Master Plan" or the "Blue Print." On disc No. 3, place some utensils and ingredients of the prescription with a placard "Science and accuracy are *important* here." On disc No. 4, place the completed prescription with a placard "Ready to fulfill its very important mission." On disc No. 5, dramatize the results, by using the picture of a baby, child, or adult in perfect health and happiness. On disc No. 6 use the general message of the display, such as "For Health's Sake."

The basic idea of this display can be adapted to a number of specialized windows in which the pharmacist wishes to tell a story. The different placement of discs enable him to give a definite sequence or continuity to the facts presented and, in so doing, "put over" a message effectively.

DELIVERY BOY RECORD

Daily record sheets for delivery boys help eliminate errors. Here is the slip developed by William McNulty, of Montclair, N. J. The boy records the C. O. D. deliveries which he collected and those on which he did not collect, as well as any money he paid out for gas, oil, or other expenses. Space is provided at the bottom for end-of-the-day computations. The slips are $3\frac{1}{2}'' \times 6\frac{1}{4}''$ and are mimeographed.

Driver		Date
C.O.D.	C.O.D. (not collected) (list names & amount)	Paid Out (list items)
TOTAL		TOTAL
Amount Collected		_____
Change Received		_____
TOTAL		_____
Amount Paid Out		_____
TOTAL		_____
Cash (turned in)		_____
TOTAL	Over	Short



MIXER EMULSIFIER

For making small amounts of emulsions, up to one pint, an old malted milk mixer with a few improvements is an excellent bit of equipment.

Dr. S. L. Hilton, of Washington, wouldn't be without his. He made a new steel collar to hold the motor housing about an inch farther away from the shaft than it had been, made an over-size slotted disk for the bottom of the stirring rod, and replaced the mixing cup with an egg bowl. You must use a rheostat on the wire to keep the mixer from going too fast and spilling the emulsion, and you should put a piece of rubber mat under the bowl to hold it still.

The mixer is more convenient than a homogenizer for small quantities of an emulsion.

EASY CONVERSION

Petty's Pharmacy, of Newark, N. J., has an interesting conversion method for physicians.

"When it is desired to write for 15 capsules, think of the dose of each ingredient in grains, and write that amount as grams," says Petty's. "This total dose, when divided into fifteen capsules, will yield the desired number of grains per capsule—3 Gm. of a drug divided into fifteen capsules gives a dose of 3 grains per capsule."

PRESCRIPTION CLIPS

Ordinary wooden clips, such as are used to hang clothes, make excellent devices to classify prescriptions as to *waiting*, *deliver*, *charge*, *C. O. D.*, or *paid*. The appropriate legend can be printed on the clip with pen and india ink, and, if desired, the clips can be painted in distinctive colors. The right clip, affixed to a prescription, prevents errors and is particularly useful if more than one man handles the compounding and dispensing.



Evans OF WARRENTON

YOU HAVE SEEN OR HEARD OR READ OF CHARLES HALL EVANS, PRESIDENT OF THE AMERICAN PHARMACEUTICAL ASSOCIATION. HERE IS THE STORY OF THE PHARMACIES WHERE HE PRACTICES THE PROFESSION WHICH HE HEADS

"YOU can get it at Evans" is a by-word in Warrenton, Georgia, where Charles Hall EVANS, president of the AMERICAN PHARMACEUTICAL ASSOCIATION, conducts two of the best stocked small-town pharmacies in the Piedmont section of the state. You never hear, "Sorry, we're just out of that," or "We will have some in tomorrow," for Evans Pharmacies have built their reputation on their ability to supply pharmaceutical products when they are needed, not a day later.

The Evans Pharmacies are an inspiring example of how important the small-town pharma-

cist can make himself to his community if he has initiative, ability and personality. Warrenton has a population of but 1286 inhabitants. It is the county seat of Warren County which, in all, has a population of only 10,717, seventy per cent of whom are colored. Cotton, corn, poultry and livestock furnish their income.

The prescription departments of both stores are models for completeness of stock and impressive appearance. Both are of the semi-visible type and are spotlessly clean and neat. They are the heart of both stores around which other departments have been developed. Mr. Evans has maintained a close contact with physicians in the community and it has been an association of equals. Pharmacy and medicine are on the same plane in Warrenton.

And many "big city" pharmacists could learn a lesson from Mr. Evans' practical use of these contacts with physicians. For example, he says, "By close contact with doctors the newer preparations are stocked and we receive their cooperation

Left: Charles H. Evans, Jr., President Evans, and A. K. Carr in the visible prescription department of Number One of the Evans Pharmacies

in keeping our stocks balanced. We experience no trouble in the duplication of stock of such items as Elixir of Thiamin Chloride because we merely get in touch with our physician friends, find out which brands they prefer, and stock those. We work shoulder-to-shoulder in the common task of preventing and relieving disease and suffering in our community. Our problems and their problems affect the manner in which we are able to render our joint services, so we work them out together."

Evans Pharmacies, like other small-town pharmacies throughout the country, furnish many services not demanded of stores in larger communities. In addition to a complete toiletry department, tobacco department, stationery and school supplies department, first aid and sick room supplies section, baby department, and soda fountain, they have a florist agency, and a veterinary supplies department. In this latter section such items as castor oil, turpentine, oil of tar, benzol, denatured alcohol, sulfur, alum, sal soda, saltpetre, bluestone, copperas, rotonone, and calcium arsenate are bought in barrel lots. Mr. H. W. Harper, of Mr. Evans' staff, has studied diseases of farm animals and, since there is no veterinarian in the county, he finds plenty of use for his services and both pharmacies enjoy a large volume of sales in this department.

At a recent "open house," Mr. Evans distributed the following statement to his customers

"The present owner of Evans pharmacies graduated from Mercer University and passed the state board of pharmacy exactly 24 years ago. Since that time many, many changes have taken place in pharmacy and medicine. That we have rendered faithful service and have kept abreast with the changing times has been evidenced by the honors both state and national that have come to us. In this country Evans Pharmacies and Warrenton, Georgia, are known by all men in pharmaceutical circles

"The success that has come to us has been made possible through your loyalty and confidence and we wish to tell you how deeply grateful we are to you. We pledge you our best

efforts in continuing our business on the same high plane in the future. It is our desire to give to Warrenton and Warren County fresh, pure drugs, and the most efficient service at the lowest prices in keeping with quality. We continue our pledge never to substitute nor to use anything but the best in drugs, chemicals or, pharmaceuticals "

A SUBSIDIARY

An interesting tale of sidelines is Mr. Evans purchase of an Orthophonic Victrola for his own use back in 1928. The day it arrived at the store he opened it and so many people admired it and asked him to order one for them that the Victrola never did get home. Instead it led to the founding of a new, separate business known as Charles Evans Stores, which sells refrigerators, ranges, radios and electrical appliances.

Both stores have soda fountains of the latest design. No cooked lunches are served but the fountains have two specials: Home-Made Chicken Salad and Ham Sandwiches Mrs.



PRESIDENT CHARLES HALL EVANS

Evans prepares both in the Evans' home. The chicken salad is prepared from an old southern recipe and is acclaimed as the "world's best." The hams for the sandwiches are cooked in large glassine bags with Coca Cola syrup and spices in a special recipe of Mrs. Evans. Salted pecans from the Evans' grove are toasted in butter daily by Mrs. Evans for the store.

Mr. Evans was born in Norwood, Ga., and moved to Warrenton at an early age. His father was engaged in the drug business minus a prescription department. After graduating with the Ph.G. degree from Mercer University, Macon, Ga., in 1915 he entered into partnership with his father and took over the business upon the latter's death in 1926. He married Miss Sarah Lang, of Sandersville, Ga., in 1917 and their only son, Charles, Jr., is now a senior at the University of Georgia School of Pharmacy.

Mr. Evans served for many years on the local Board of Education and on the official board of

the Methodist Church. He has always been active in his State Pharmaceutical Association and he served on the Georgia Board of Pharmacy for five years. He was elected president of the National Association of Boards of Pharmacy in 1935 and served on the Executive Committee of that organization from 1936 to 1938.

"I am happy I chose pharmacy as my profession," says Mr. Evans. "I am doubly glad that my son has chosen pharmacy as his career. I am happy that I have conducted my little business as I have during the past twenty-five years . . . stressing its professional services and building other departments around the prescription department in a way that has helped rather than hindered its growth."

Below: A. K. Carr, Charles H. Evans, Jr., President Evans, and R. Lin Fulghum, in Number Two of the Evans Pharmacies.



BRANCH MEETINGS

ALABAMA POLYTECHNIC STUDENT BRANCH.—George Bayne, pharmacist of Auburn, Ala., addressed the October meeting of the branch, giving a most interesting résumé of his years as pharmacist and salesman. Thomas Schuessler has been appointed chairman of a committee to design a key for members of the branch.

The first meeting in November was addressed by Colonel John Waterman who explained the place of the Field Artillery in the Army. A number of pharmacy students are in the Field Artillery branch of the R. O. T. C.

The branch held a Christmas party at the home of Beth M. Murphy, secretary of the branch.

CITY OF WASHINGTON.—Dr. Robert L. Swain, editor of *Drug Topics*, addressed the December 11th meeting, discussing the cost of distribution of medicinals, the work of the Drug Resources Board, the conscription of pharmacists, hospital insurance and legislative problems.

Dean Paul Briggs, of George Washington School of Pharmacy, reported that a committee of the branch would meet at luncheon with like committees representing the local medical and dental societies to discuss mutual problems.

NORTHERN NEW JERSEY.—Dr. Richard A. Deno, president of the branch, addressed the December 9th meeting on the subject of recent developments in medical and pharmaceutical research. The branch held a dental-pharmacy symposium in January.

NEW YORK.—Col. Allen W. Dawson, M.C., addressed the January 13th meeting on the subject of "The Drug and Pharmaceutical Industry and Its Position in National Preparedness" and Dr. William De Kleine, Medical Director of the American Red Cross, addressed the members on "The Drug and Pharmaceutical Industry's Cooperation with the American Red Cross in National Emergencies." Dr. De Kleine revealed that up to the present time, 745 pharmacists have enrolled as medical technologists with the Red Cross. He suggested that the Branch associate itself with the local chapter of the American Red Cross through a committee in order that in the event of a national disaster or emergency the pharmacists of the locality would be in a position to give the most efficient aid possible.

The branch elected the following new officers: Leonard W. Steiger, *president*; Horace T. F. Givens, *vice-president*; Frank J. Pokorny, *secretary*; Turner F. Currens, *treasurer*; Robert S. Lehman, *chairman of the Committee on Education and Legislation*; Otto F. A. Canis, *chairman of the Committee on Audit*;

James H. Kidder, *chairman of the Committee on Professional Relations*; and Cosmo Ligorio, *chairman of the Committee on the Progress of Pharmacy*.

PHILADELPHIA.—Dr. Frank Eby, Professor of Botany and Pharmacognosy at the College of Pharmacy of Temple University, addressed the January 14th meeting on the subject of the present crude drug situation. Dr. Eby explained that the country is much better off to-day than it was at the time of the last war because of the greater knowledge of the cultivation of drugs in this country, a broader home source and the availability of better chemotherapeutic agents.

He stated that hydrastis, peppermint, wormseed and other plants were being grown profitably in this country; 250-300 native drugs are produced in varying amounts. Most are cultivated in North Carolina. Cascara is produced in large quantities in Oregon and Washington. Several wild plants are harvested in the northeast. He mentioned that the climatic and soil conditions are suitable for growth of such drugs as digitalis and belladonna. Cultivation of these has practically ceased, as it has been found profitable only when prices are abnormally high. Healthy, normal looking plants will occasionally be found to be lacking in therapeutic activity or odor value because of some unknown reason. The Department of Agriculture and state universities, such as Florida and Wisconsin, have succeeded in growing many drugs. The Government recommends that individuals should not embark on commercial production of drugs before making a thorough study of soil, cultivation methods and market conditions.

A color film of the collection of drugs in North Carolina, hydrastis farming in the Skagit Valley and drug processing was shown through the courtesy of the S. B. Penick Company.

A resolution of tribute to the memory of the late Richard H. Lackey was approved and spread upon the minutes.

SOUTHERN COLLEGE OF PHARMACY STUDENT BRANCH.—Dr. J. Sam Guy, head of the Chemistry Department of Emory University, addressed the January 21st meeting on the subject of the "Role of Science in National Defense." Dr. Guy pictured the horrors of the present war as "science on the rampage" and he outlined the regret with which men of science see their developments used to harm instead of help civilization. He expressed the opinion that the day is not far off when the way of life of a nation must rise or fall by the achievements of its scientists and he urged that the nation's scientific power be fully utilized in the defense of the country.

WESTERN NEW YORK.—Harold Green, of L. Sonneborn and Sons, addressed the January 9th meeting on the subject of "Petroleum Products in Pharmacy." Mr. Green pointed out that there are nearly five hundred different uses for petroleum and expressed the opinion that the domestic white oils are as fine as imported oils.

George W. Fiero, secretary of the branch reported on the success of the appeal for pharmaceuticals to aid Britain and Greece. During Christmas vacation, the appeal was enlarged to include cities of Western New York where pharmacy students returned home for the holidays. The first shipment from the Buffalo area consisted of thirty cartons of pharmaceuticals and first aid materials, consisting of over 350 different items. An equally large quantity is on hand from Rochester, Syracuse and other cities, with supplies coming in daily. The valuable assistance of pharmacy students in this drive cannot be over emphasized.

STATE COLLEGE OF WASHINGTON STUDENT BRANCH.—Claud Edgren, proprietor of the Elk Drug Store, of Colfax, addressed the January 15th meeting on the subject of qualities the employer expects to find in his employees. His talk was most constructive and inspirational.

OBITUARY

HOWELL W. ALLEN

Howell W. Allen, pharmacist of Baltimore, Md., died on December 26th at the age of 74 years.

Mr. Allen had been engaged in pharmacy since 1899 and was a graduate of the Maryland College of Pharmacy. He had served as President of the Maryland Pharmaceutical Association and was a member of the AMERICAN PHARMACEUTICAL ASSOCIATION, the National Association of Retail Druggists, the Baltimore Retail Druggists Association, the Alumni Association of the School of Pharmacy of the University of Maryland and the Wedgwood Club.

FRANK H. FREERICKS

Frank H. Freericks, Secretary and Counsel of the American Druggists Fire Insurance Company,

Cincinnati, Ohio, died January 24th following a two weeks illness of pneumonia. He was 69 years of age.

Mr. Freericks was born in Germany and came to the United States at the age of eight years. He began to work in a drug store while still a boy and in time became its manager, owner and ultimately the owner of several drug stores. He studied law at the Cincinnati Law School and was graduated in 1901. He was a charter member of the National Association of Retail Druggists and had been a member of the AMERICAN PHARMACEUTICAL ASSOCIATION since 1905. He helped organize the American Druggists Fire Insurance Company 15 years ago to specialize in fire insurance for drug stores. He founded the Cincinnati City Pharmacy Association.

CHARLES JOSEPH FUHRMANN

Charles J. Fuhrmann, former Acting Dean of the College of Pharmacy of Howard University, Washington, D. C., died suddenly on January 2nd. He was 69 years of age.

Dean Fuhrmann came to Washington as a young man, was graduated by the National College of Pharmacy in 1901, and the same year opened a drug store which he conducted until he accepted the position of Professor of Pharmacy at Howard in 1922. He served as Vice Dean of the College from 1926 to 1937 when he retired and was appointed Acting Dean for the year 1937-1938 until a new administrator could be appointed.

He served for ten years on the District of Columbia Board of Pharmacy, twelve years as secretary of the District of Columbia Pharmaceutical Association and was a charter member of the Veteran Druggists' Association. He was a member of the AMERICAN PHARMACEUTICAL ASSOCIATION and an honorary member of the National Association of Boards of Pharmacy.

JOHN WILLIAM GAYLE

John W. Gayle of Frankfort, Ky., treasurer of the National Association of Boards of Pharmacy and, until his retirement two years ago, secretary of the Kentucky Pharmaceutical Association for fifty years and secretary of the Kentucky Board of Pharmacy for thirty-seven years, died January 7th. He was 81 years of age.

Mr. Gayle was Honorary President of the AMERICAN PHARMACEUTICAL ASSOCIATION in 1939.

He first worked in a pharmacy in 1882, became registered by examination in 1884, and at one time

perated three pharmacies in Frankfort. At the time of his death he still held an interest in two pharmacies.

Mr. Gayle was chairman of the Legislative Committee of the Kentucky Association for twenty-seven years during which time he secured the passage of the State Pharmacy Law and other legislation in the interest of better pharmaceutical service to the public.

He became a member of the AMERICAN PHARMACEUTICAL ASSOCIATION in 1891.

WILLIAM PARKER HERBST

William P. Herbst, retail pharmacist of Washington, D. C., died December 18th. He was 72 years of age.

Mr. Herbst began to work in a pharmacy as a youth of eighteen, was graduated by the National College of Pharmacy in 1889, purchased the pharmacy of W. T. Baldus, 19th and Pennsylvania Ave., and established his own business in 1890. He retired in 1931. He was a member of the Board of Trade, District of Columbia Pharmaceutical Association and Veteran Druggists' Association, the AMERICAN PHARMACEUTICAL ASSOCIATION, National Association of Retail Druggists and the Maryland Pharmaceutical Association. He was a member of the Board of Directors of the Washington Wholesale Drug Exchange.

RICHARD H. LACKEY

Richard H. Lackey, retail pharmacist of Philadelphia, Pa., for the past fifty-two years, died on November 4th.

Mr. Lackey was a member of the Philadelphia Association of Retail Druggists, the Veterans' Association, a past-president of the Pennsylvania Pharmaceutical Association, a trustee of the Philadelphia College of Pharmacy and Science, one of the oldest members of the Philadelphia Wholesale Drug Company, and the National Association of Retail Druggists, and had been a member of the AMERICAN PHARMACEUTICAL ASSOCIATION since 1911. Dean Ivor Griffith, as well as many other prominent pharmacists, served as apprentice to him.

PAUL NICHOLAS LEECH

Paul Nicholas Leech, Ph.D., Director of the Division of Foods, Drugs and Physical Therapy and Secretary of the Council on Pharmacy and Chemis-

try, of the American Medical Association, died suddenly on January 14th, following a hemorrhage of the brain. Dr. Leech was born in Oxford, Ohio; obtained his A.B. degree from Miami University, Oxford, Ohio; received the degrees of M.S. and Ph.D. from the University of Chicago; and received the honorary degree of Master of Pharmacy from the Philadelphia College of Pharmacy and Science.

CHARLES MORGAN

Charles Morgan, of Morgan and Millard, pharmacists, of Baltimore, Md., died on December 11th, at the age of 84 years.

He started work in a pharmacy at the age of thirteen years, later attending the Maryland College of Pharmacy. In 1895 he opened his own pharmacy which was destroyed in the Baltimore Fire. He then established the firm of Morgan and Millard with David R. Millard.

Mr. Morgan served as president of the Maryland Pharmaceutical Association in 1910. He was a member of the AMERICAN PHARMACEUTICAL ASSOCIATION, the Baltimore Veteran Druggists Association, the Alumni Association of the School of Pharmacy of the University of Maryland and a director of the Calvert Drug Company.

HARRY ROBERT RUDY

Harry R. Rudy, retail pharmacist of Hagerstown, Md., and member of the Maryland State Board of Pharmacy, died on January 5th.

Mr. Rudy first started to work in a pharmacy in 1890 at the age of seventeen years. He was graduated by the Philadelphia College of Pharmacy and Science in 1896 and returned to Hagerstown and formed a partnership with H. Lionel Meredith for the conduct of a pharmacy under the name of Rudy and Meredith. In 1923 Mr. Rudy assumed full ownership of the pharmacy.

Mr. Rudy served as president of the Maryland Pharmaceutical Association in 1927 and had been a member of the AMERICAN PHARMACEUTICAL ASSOCIATION for many years. He took part in civic affairs and had been president of the Park Board of Hagerstown since 1918.

IN THE NEWS

Studies of quinine production at the Puerto Rico Experiment Station have developed to the point where mature trees have been produced and samples of bark are being harvested and assayed, James T. Jardine, Chief of the Office of Experiment Stations, has reported to Secretary of Agriculture, H. A. Wallace.

Bark from trees of *Cinchona ledgeriana* has been found to contain 8.5 percent of quinine as the sulfate and 10 percent of total alkaloids. These are good commercial concentrations. The development of knowledge of quinine production was handicapped considerably because much of the accumulated knowledge from experience or experimentation in the production of this crop in the East Indies had not been made public.

Many species of *Cinchona*, particularly those with high quinine concentrations, are propagated

with considerable difficulty, being subject to fungus diseases and at least one insect pest and being highly selective as regards soils and atmospheric environment. At the station the germination of *Cinchona* seeds has now been developed and standardized to a point where considerable certainty is possible in obtaining good nursery trees. The expansion of the forest plantings in Puerto Rico is now possible, and aid is being given to other Western Hemisphere countries in the establishment of this crop, he reported.

A Permanent Health Museum, is being planned in Flushing Meadow Park, Long Island, N. Y., which will emerge next summer on the former site of the New York World's Fair. The Masterpieces of Art Building from the Fair will be renovated to house the museum in which will be installed many of the exhibits that were in the Medicine and Public Health Building and a number of new exhibits. The Museum is sponsored by a group of physicians including Drs. Louis I. Dublin, John L. Rice, George Baehr, Malcolm Goodridge, Victor Heiser, David J. Kaliski, Seth N. Milliken, and George E. Vincent.

The Plant Science Seminar will be held at Cranbrook Institute of Science during the week of August 11-15, 1941. Cranbrook is an educational center occupying 300 acres of wooded land in Bloomfield Hills, Michigan, about twenty miles north of Detroit.

The region about Bloomfield Hills abounds in variable flora and many distinct plant communities are to be found. A number of excellent botanical excursions through this typically glaciated country are scheduled. Visits will be made to the Medicinal Plants Farm at Parkedale and to the Oakview Seed Breeding Institute of the Ferry-Morse Company and a visit to the Todd Mint Farms near Kalamazoo is being tentatively planned.

Mr. J. Russell Anderson, 15851 Evanston Avenue, Detroit, Michigan, is Local Secretary.

Dr. Henry L. Schelling, oldest living graduate of the Brooklyn College of Pharmacy has been elected an Honorary Trustee of that institution.

Parke, Davis and Company, Detroit, Michigan, is celebrating the seventy-fifth anniversary of its founding. The company had its inception in a small drug store in Detroit and has become one of the world's leading manufacturers of pharmaceuticals and biological products.



Five year old cinchona tree in the Maricao Insular Forest where the U. S. Department of Agriculture is investigating the possible development of a nearby source of supply of quinine.

For the second successive year no articles containing dinitrophenol were found in interstate commerce during the fiscal year ending June 30, 1940, according to the report of W. G. Campbell, Chief of the Food and Drug Administration.

Stating that the public benefit of the new Federal Food, Drug, and Cosmetic Act "cannot be measured wholly in terms of legal actions," Mr. Campbell stated that educational work of the Administration had brought about widespread changes in the composition and labeling of many classes of drugs, particularly headache remedies.

In the two years that the "new drug" provision of the law has been in effect, a total of 2752 applications for the introduction of such products have been received. Of these 1782 have been made effective, 776 are in an incomplete status pending the receipt of further information, 52 were received recently and are under initial consideration, 139 have been withdrawn by the applicants and 3 were refused.

The Merck Report, established in 1891, first as a monthly publication and, later, as a quarterly, celebrated its fiftieth anniversary in January in an issue of 48 pages and with an illustrated cover printed by the offset process. The cover depicts drug stores of 1890 contrasted with modern prescription pharmacies. Well and favorably known writers have contributed to the pages on phases of pharmaceutical development during the past half century in which members of the staff have been helpful.

1,639,004 persons visited the Lincoln Memorial last year, making it the most popular point in Washington for visitors. THE AMERICAN INSTITUTE OF PHARMACY is directly across Constitution Avenue from the Lincoln Memorial so these visitors could hardly help but see it and be impressed with this evidence of the importance of the pharmaceutical profession.

Tenth Annual Meeting of the Inter-Society Color Council will be held in Washington, D. C., March 4 and 5, 1941. THE AMERICAN PHARMACEUTICAL ASSOCIATION has been closely associated with the Council in the development of a scientific basis for color nomenclature as it applies to drugs, and two sessions of the annual meeting will be held at THE AMERICAN INSTITUTE OF PHARMACY.

Sixteen papers were presented at the two sessions of the Subsection of Pharmacy at the meeting of the American Association for the Advancement of Science, held in Philadelphia, on December 28th. Sixty-nine persons registered at the pharmacy meetings.

A. C. Boylston has been appointed president of the Mallinckrodt Chemical Works, St. Louis, Missouri, succeeding the late Oscar L. Biebinger. Dr. F. W. Russe has been appointed vice-president in addition to being secretary; M. A. Frohock has been appointed vice-president, and S. W. Coleman has been appointed general sales-manager.

Recent Donations to the library and museum of the AMERICAN INSTITUTE OF PHARMACY include the following:

A copy of the U. S. Dispensatory, 13th Edition, 1870, received from Ralph C. Dudrow, Hyattsville, Md.

Two packages of Lengol, a Japanese product which a few years ago was considered a new specific for respiratory diseases. Records accompanying the product are in Japanese, from a laboratory at Osaka. Received from Dr. S. L. Hilton, Washington, D. C.

An iodine keg, formerly used for the shipment of this chemical, received from J. J. Nichols, of the Iodine Educational Bureau, Inc., New York, N. Y.

Emil C. Horn, of Milwaukee, Wis., has been made an "Honorary and Life Member" of the Milwaukee County Pharmacists Association in recognition of his services to the organization as President and as chairman of its Professional Relations Committee.

Visitors at THE AMERICAN INSTITUTE OF PHARMACY during January included the following: Roy W. McCartney, Portland, Ore.; H. J. Cowell, Philadelphia, Pa.; W. D. Wilcox, Philadelphia, Pa.; M. W. Green, Washington, D. C.; John A. Wiborg, Brooklyn, N. Y.; Joseph Dubitzky, Hartford, Conn.; Leo Dubrow, Newark, N. J.; Alex Chase, Newark, N. J.; Louis Garawitz, Newark, N. J.; E. M. Houdlette, Augusta, Me.; Mrs. T. J. Britton, Arlington, Va.; L. L. Frey, Washington, D. C.; Max W. Katz, Newark, N. J.; Uriah M. Friedman, Brooklyn, N. Y.; J. P. Snyder and J. M. Snyder, Bethesda, Md.; Blaise Laurier, Washington, D. C.; W. Owen Hays, Washington, D. C.; Irving Kern, Brooklyn, N. Y.; Morris J. Allikin, Baltimore, Md.; Alexander O. Garuk, Baltimore, Md.

PROPOSED LIST OF HABIT-FORMING DRUG DERIVATIVES

GOVERNMENT SUBMITS LIST OF BARBITURIC ACID COMPOUNDS AND OTHER HABIT-FORMING DRUG DERIVATIVES THAT MUST BE LISTED QUANTITATIVELY ON LABELS WITH WARNING PHRASE.

UNDER provisions of the Federal Food and Drugs Act and its regulations, the label of a drug must bear the name and quantity or proportion which the product contains of alpha eucaïne, barbituric acid, beta-eucaïne, bromal, cannabis, carbromal, chloral, coca, cocaine, codeine, heroin, marihuana, morphine, opium, paraldehyde, peyote, and sulphonmethane, *or any chemical derivative of such substance which has been found by the Administrator after investigation to be habit-forming and has been designated as such by regulation.* In addition, such labels must bear the statement "Warning—May be habit-forming."

On January 30th the Administrator published a proposed list of derivatives of these substances which the Food and Drug Administration believes are habit-forming and a public hearing will be held on March 3rd for interested persons to offer evidence pertaining to the proposed list. The list may be adopted, rejected or amended by the Administrator on the basis of evidence presented at the hearing.

The proposed list of habit-forming derivatives is as follows:

CHEMICAL DERIVATIVES OF ALPHA EUCAINE

All salts of alpha eucaïne formed by the combination of alpha eucaïne with any acid. The common or usual name of each such salt is "alpha eucaïne" followed by the name of the acid radical combined in such salt (as for example "alpha eucaïne sulfate"); except that when the acid is hydrochloric acid, hydrobromic acid or hydriodic acid, the name which

follows is "hydrochloride," "hydrobromide," or "hydriodide," as the case may be.

CHEMICAL DERIVATIVES OF BARBITURIC ACID

Alurate (5-allyl-5-isopropyl-barbituric acid).
Amytal (5-ethyl-5-isoamyl-barbituric acid).
Barbital (5,5-diethyl-barbituric acid).
Butisol (5-ethyl-5-sec-butyl-barbituric acid).
Cyclopal (5-allyl-5-cyclopentenyl-barbituric acid).
Delvinal (5-ethyl-5-(1-methyl-1-butenyl)-barbituric acid).
Dial (5,5-diallyl-barbituric acid).
Eldoral (5-ethyl-5-1(1-piperidyl)-barbituric acid).
Eunarcon (5-(2-bromoallyl)-5-isopropyl-1-methyl-barbituric acid).
Evipal (1,5-dimethyl-5-(1-cyclohexenyl)-barbituric acid).
Ipral (5-ethyl-5-isopropyl-barbituric acid).
Mebabar (5-ethyl-5-phenyl-1-methyl-barbituric acid).
Narconumal (5-allyl-5-isopropyl-1-methyl-barbituric acid).
Neonal (5-ethyl-5-butyl-barbituric acid).
Nostal (5-isopropyl-5-(2-bromoallyl)-barbituric acid).
Ortal (5-ethyl-5-hexyl-barbituric acid).
Pentenal (5-ethyl-5-cyclopentenyl-barbituric acid).
Pentobarbital (5-ethyl-5-(1-methyl-butyl)-barbituric acid).
Pentothal (5-ethyl-5-(1-methylbutyl-2-thio-barbituric acid).
Pernoston (5-sec-butyl-5-(2-bromoallyl)-barbituric acid).
Phanodorn (5-ethyl-5-(1-cyclohexenyl)-barbituric acid).
Phenobarbital (5-ethyl-5-phenyl-barbituric acid).
Prominal (5-ethyl-5-phenyl-1-methyl-barbituric acid).
Proponal (5,5-dipropyl-barbituric acid).
Rectidon (5-(2-bromoallyl)-5-(1-methylbutyl)-barbituric acid).
Rutonal (5-methyl-5-phenyl-barbituric acid).
Sandoptal (5-allyl-5-isobutyl-barbituric acid).
Seconal (5-allyl-5-(1-methylbutyl)-barbituric acid).
Sigmodal (5-amyl-5-(2-bromoallyl)-barbituric acid).

All lithium, sodium, potassium, magnesium, calcium, strontium, and ammonium salts of any such acids. The common or usual name of each such salt is the common or usual name under which such acid is herein listed preceded by the name of the basic ion with which it combined to form such salt.

CHEMICAL DERIVATIVES OF BETA EUCAINE

All salts of beta eucaine formed by the combination of beta eucaine with any acid. The common or usual name of each such salt is "beta eucaine" followed by the name of the acid radical combined in such salt (as for example "beta eucaine sulfate"); except that when the acid is hydrochloric acid, hydrobromic acid or hydriodic acid, the name which follows is "hydrochloride," "hydrobromide," or "hydriodide," as the case may be.

CHEMICAL DERIVATIVES OF BROMAL

Bromal Hydrate (tribromoacetaldehyde hydrate).

Brometone (2-(tribromomethyl)-2-propanol).

Bromoform (tribromomethane).

CHEMICAL DERIVATIVES OF CANNABIS AND MARIHUANA

Extract of Cannabis.

Fluidextract of Cannabis.

Tincture of Cannabis.

CHEMICAL DERIVATIVES OF CARBROMAL

Acetylcarbromal (a-bromo-a-ethyl-butyryl-acetyl-urea).

Bromural (a-bromoisovaleryl-urea).

Neuronal (a-bromo-a, a-diethyl-acetamide).

Sedormid (a-allylisovaleryl-urea).

CHEMICAL DERIVATIVES OF CHLORAL

Chloralformamide (n-(b-trichloro-a-hydroxy-ethyl)formamide).

a-Chloralose (a-(b-trichloro-a-hydroxyethyl)-d-glucoside).

Chloral Hydrate (trichloroacetaldehyde hydrate).

Chloralimide (trichloroethylideneimine).

Chlorobutanol (2-(trichloromethyl)-2-propanol).

CHEMICAL DERIVATIVES OF COCAINE

All salts of cocaine formed by the combination of cocaine with any acid. The common or usual name of each such salt is "cocaine" followed by the name of the acid radical combined in such salt (as for example "cocaine sulfate"); except that when the acid is hydrochloric acid, hydrobromic acid or hydriodic acid, the name which follows is "hydrochloride," "hydrobromide," or "hydriodide," as the case may be.

CHEMICAL DERIVATIVES OF CODEINE

Dicodid (dihydro-codeinone).

Eucodal (dihydrohydroxy-codeinone).

Eucodin (codeine methyl bromide).

Any salt of dicodid, eucodal or codeine formed by the combination of any such substance with any acid. The common or usual name of each such salt is "dicodid," "eucodal" or, "codeine," as the case may be, followed by the name of the acid radical combined in such salt (as for example "codeine sulfate"); except that when the acid is hydrochloric acid, hydrobromic acid, or hydriodic acid, the name which follows is "hydrochloride," "hydrobromide," or "hydriodide," as the case may be.

CHEMICAL DERIVATIVES OF HEROIN

All salts of heroin formed by the combination of heroin with any acid. The common or usual name of each such salt is "heroin."

CHEMICAL DERIVATIVES OF MORPHINE

Dilaudid (dihydro-morphinone).

Ethylmorphine.

Paramorphan (dihydro-morphine).

Any salt of dilaudid, paramorphan, ethylmorphine, or morphine formed by the combination of any such substance with any acid. The common or usual name of each such salt is "dilaudid," "paramorphan," "ethylmorphine," or "morphine," as the case may be, followed by the name of the acid radical combined in such salt (as for example "morphine sulfate"); except that when the acid is hydrochloric acid, hydrobromic acid, or hydriodic acid, the name which follows is "hydrochloride," "hydrobromide," or "hydriodide," as the case may be.

CHEMICAL DERIVATIVES OF OPIUM

Extract of Opium.

Fluidextract of Opium.

Tincture of Opium.

CHEMICAL DERIVATIVES OF PARALDEHYDE

Metaldehyde.

CHEMICAL DERIVATIVES OF SULPHONMETHANE

Sulfonethylmethane.

Sulfondiethylmethane.

CHLOROBUTANOL EXEMPTION

Another proposed regulation would exempt labels of products for parenteral use and containing small amounts of chlorobutanol as a preservation, as an analgesic, or both.

NEW BOOKS

ON DETAILING

DETAILING THE PHYSICIAN, by Tom Jones; 214 pages; 5½" x 8½"; cloth cover; First Edition; Romaine Pierson Publishers, Inc., New York, N. Y.; \$2.75.

There should be five or six books on the detailing of physicians for this is certainly an important method of developing prescription practice; but there isn't. Mr. Jones' book, therefore, fills a real need and, although written primarily from the viewpoint of a manufacturer's representative, its general observations apply also to detailing by the pharmacist who is selling himself and his services rather than a specific product.

A GUIDE TO THERAPEUTICS

THE MERCK MANUAL OF THERAPEUTICS AND MATERIA MEDICA; 1436 pages; 4" x 6½"; Fabrokoid cover; Seventh Edition; Merck and Company, Rahway, N. J.; 1940; \$2.00.

Although dedicated to the physician and planned primarily for his use, this handy, pocket-size book is worth many times its price to the practicing pharmacist who is interested in more than a casual knowledge of the use of drugs and pharmaceuticals. As the science of medicine and the treatment of disease has progressed it has become more and more specific. General symptoms are differentiated, traced to their origin, and medication is developed to produce fine shades of therapeutic action which will give effective and efficient relief.

The pharmacist keeps up-to-date with these developments in the current literature but time and time again he needs the help of clear, concise definitions of disease conditions as well as descriptions of their etiology and general treatment. He needs this information, not because he is going to attempt to practice medicine, but in order to appreciate the significance of medical advances and to be in a position to discuss them with physicians. When a new allergen is announced for use in the Frei test for venereal lympho-granuloma, as recently happened, the availability of a competent reference book such as the Merck Manual helps the pharmacist inter-

pret the development, evaluate it and act accordingly.

The seventh edition introduces a number of new monographs on bile tract disease, circulatory failure, granuloma inguinale, granulocytopenia, impotence, hypoglycemia, hypo-ovarianism, obesity, roentgen-ray sickness, lymphadenopathies, jaundice, spirochetal jaundice, psychoneuroses and psychoses. It contains a comprehensive poison and antidote chapter, an up-to-date dosage table which includes many seldom-used old drugs as well as the newer therapeutic agents, and a chapter on materia medica that carries the user right up through the sulfonamide drugs.

INFORMATION ON SPECIALTIES

MODERN DRUG ENCYCLOPEDIA AND THERAPEUTIC GUIDE, by Jacob Gutman, M.D., Phar.D.F., A.C.P.; 1644 + xxiv pages; 6" x 9". New Modern Drugs, New York, Second Edition, 1941.

When the National Drug Store Survey was made in St. Louis eight years ago, the investigators called attention to the tremendous task confronting the pharmacist in keeping a file of information concerning the hundreds of new prescription specialties which are introduced each year by manufacturers. Promptly upon the issuance of this report, the drug journals of the country started to publish descriptions of the composition, properties, uses and supply of such products in a style which enable pharmacists to cut out the individual write-ups, mount them on 3" x 5" cards and file them alphabetically. A further development was the publication of the first edition of the Modern Drug Encyclopedia in 1934. It has been kept up with regular supplements quarterly and is now published in its second edition.

The new edition presents descriptions of 11,114 modern, non-official, ethical medicinal preparations in 15,629 forms, comprising: 3421 drugs and chemicals, 663 biologicals, 691 endocrines, 2270 ampul medicaments, 3196 individual and group allergens and 879 miscellaneous products.

The book is well-edited in sections devoted to popular proprietary drugs, drugs for external use, endocrine preparations, hypodermic medicaments, biologicals, allergens, index to manufacturers and distributors, a therapeutic index, and a product index.

Practical Pharmacy Edition

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•
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No claims will be allowed for Journals lost in the mails due to: Failure to notify of change of address (thirty days' notice required); after a lapse of three months; failure to receive wrappers from returned Journals.

Entered as second-class matter January 23, 1917, at the Post Office at Easton, Pa., under the act of March 3, 1879, as 24 times a year; Scientific Edition monthly on the fifth. Practical Pharmacy Edition monthly on the 20th. Acceptance for mailing at a special rate of postage provided for in Section 1102, Act of October 3, 1917, authorized July 10, 1938.

The windows in Mr. Granito's pharmacy provide a view of the interior and enable the passerby to see the pharmacists at work. No merchandise is displayed in windows; a narrow ledge merely provides space for a showglobe and a few plants.

FRANK'S PHARMACY

EST 1886



THE PHARMACY VISION REMODELED

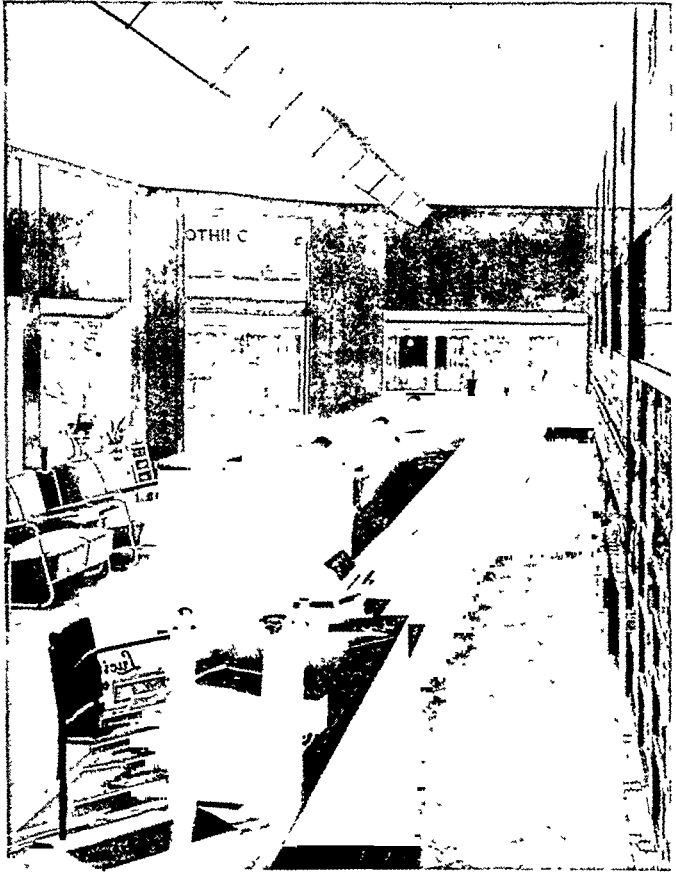
TIRED OF BEING "COOPED UP" IN A BACK ROOM, WEARY OF THE PRESENT-DAY "BATTLE OF WINDOW DISPLAYS," A. R. GRANITO HAS MADE THE PRESCRIPTION DEPARTMENT THE CHIEF FEATURE OF HIS NEW JERSEY PHARMACY

WHEN he first thought of remodeling his pharmacy, A. R. Granito, of Hackensack, N. J., decided that this would be an ideal opportunity to bring his pharmacy "nearer to his heart's desire." Mr. Granito had long dreamed of the type of professional pharmacy he would like to conduct and so he let his vision do the remodeling without conforming to any set rules or guides.

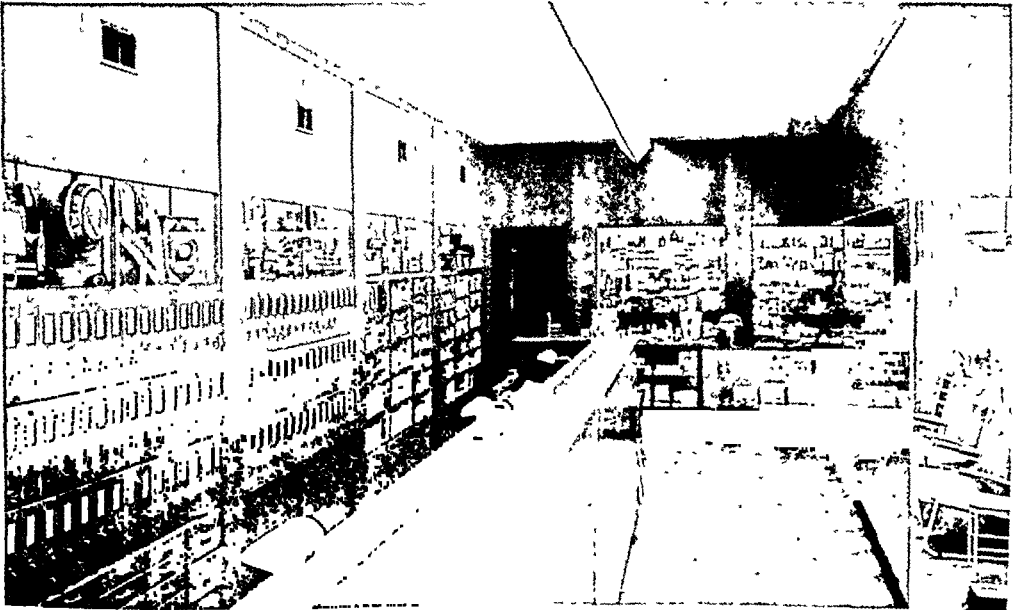
Not to be rushed into a haphazard remodeling program merely for the sake of making a change, Mr. Granito took fifteen months to work out his ideas. He took a loose-leaf notebook, headed one page, "Things I Like in Drug Stores," and headed another, "Things I Dislike in Drug Stores." He thought back over his years as a pharmacist and listed under the first heading a *professional atmosphere*. He felt a pharmacy should radiate its professional character, not keep professional activities hidden in the back room. He liked to be in the open where he could see people and they could see him. He was tired being "cooped up" in a back room or back part of a store, to emerge only to greet and wait on customers. He felt that prescription activities, as the prime reason for a pharmacy, should be highlighted and emphasized.

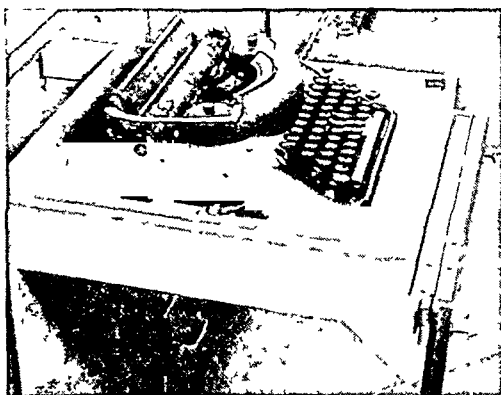
Among his dislikes he listed display windows. They required a lot of time and work in planning

Right: The eye-level prescription counter extends along twenty-six feet of one side of the pharmacy. The counter is divided into three stations, each completely equipped even to telephone. The pharmacist works in bright, clean surroundings instead of being hidden in a dark backroom.

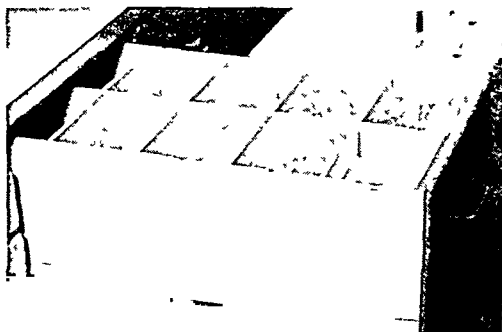


Below: At the rear of the pharmacy is a small waiting counter, toiletry department, drug counter, and telephone booths. Note the display sections over the prescription wall case used for sick room supplies.

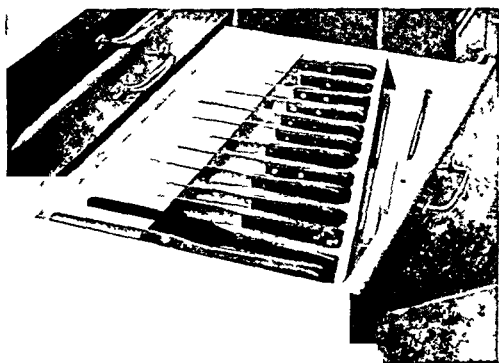




Each typewriter is in a drawer beneath the compounding counter. The front of the drawer is hinged so that it may be dropped down after the drawer has been pulled out. This keeps the machine out of the way of the pharmacist, yet it is instantly available for use.



Empty gelatin capsules are kept in bins in a special drawer under the compounding counter. The correct size capsule is right at the pharmacist's fingertips and there is no danger of spilling capsules on the floor.



The spatula drawer is fitted with a slotted board in which the spatulas fit on their sides. The proper utensil is immediately available when needed.

and dressing. . . time he would prefer to spend at professional duties. Principally, he resented these selfsame windows as a medium of comparison: here were his windows—there the cut-raters—compare them. No difference. If he had merchandising windows, the cut-rater also had them; if he installed professional windows, so could the cut-rater. Under this system, pharmacy became a battle of window displays. Mass store displays, while they sold merchandise, went on his list of dislikes too. They sold merchandise, but they contributed nothing to his primary interest: the development of his prescription practice and his professional services. He disliked the usual spatula drawer with its contents thrown in hit-or-miss. He disliked typewriters on the prescription counter where they were always dust catchers and in the way. He disliked a visible trash basket. He disliked separate telephones, necessitating going from one to the other to answer them. He disliked the amount of walking around a pharmacist had to do when he filled a prescription. . . over here for bottles, there for capsules, there for graduates, etc.

Such were the notations on Mr. Granito's list. The next step was to call in architects, one for the exterior and one for the interior. To them he submitted his list, explained what he wanted, and worked closely with them to develop plans that would avoid his "dislikes" and feature his "likes."

On July 2, 1941, the new pharmacy was opened in the presence of civic, professional, and business leaders of the city, county, and state. Those who attended came away with a new picture of pharmacy.

Display windows have been abandoned entirely. In their place are three large, plate-glass windows which give a view of the store interior.

Down for 26 feet of the pharmacy's depth, extends the eye-level prescription counter of gold-combed grain oak. A small section in the rear of the pharmacy is devoted to waiting counter, wall cases of proprietary medicines and toiletries, and telephone booths. Comfortable lounge chairs are provided for the customer who waits for a prescription to be compounded. Upholstered stools at the waiting counter rest the weary shopper. The entire store is air-conditioned and is illuminated by fluorescent lighting. The floor is of diamond-shaped terrazzo in brown and tan. Mr. Granito's desk is placed at the very front of the store.

The exterior is done in wine-colored suede finish Cararra glass with bronze trim. A bronze marquee extends over the doorway and the doors are of glass. A graceful prescription symbol is etched in the glass panel over the doorway.

The prescription compounding counter is divided into three stations, each completely equipped. Among the interesting new ideas which Mr. Granito has developed are the following:

Each typewriter is in a drawer beneath the compounding counter. The front of the drawer is hinged so that it may be dropped down after the drawer has been pulled out. This keeps the machine out of the way of the pharmacist, yet it is instantly available for use.

Empty gelatin capsules are kept in bins in a special drawer under the compounding counter. The correct size capsule is right at the pharmacist's fingertips and there is no danger of spilling capsules on the floor.

Waste baskets are placed in a compartment beneath the counter. The lower three-quarters of the front of the compartment is a door to facilitate removal of the basket, while the top one-quarter is a wooden flap, hinged along the top surface, which responds to fingertip pressure. The pharmacist can deposit a wrapper or box by merely pushing in the top section of the front, and dropping the object into the basket.

The spatula drawer is fitted with a slotted board in which the spatulas fit on their sides.

Each station has its own telephone below the counter and the pharmacy has three incoming lines for calls.

BACK ROOM

The back room of the pharmacy, formerly the prescription room, is used for shelf stock of proprietary remedies and for unpacking orders. The room has a separate exit to the street and thus deliveries of merchandise may be made without disturbing the front area of the pharmacy.

For his new store Mr. Granito has adopted the descriptive phrase, "A Streamlined Old-Fashioned Apothecary Shop," which he has copyrighted. This phrase appears in all of his advertising and also on his prescription labels.

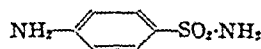
Mr. Granito is vice-president of the National Association of Retail Druggists and has served as president of both the Bergen County and the New Jersey Pharmaceutical Associations. He served four terms as president of the Hackensack Chamber of Commerce and is a member of the executive committee at the present time. He is married, the father of a three-year-old boy, and has been a resident of Hackensack for sixteen years.

AND NOW: SULFACETIMIDE

NEW SULFA DRUG INTRODUCED FOR TREATMENT OF URINARY INFECTIONS AND GONORRHEA

infections of the urinary tract and of gonorrhea.

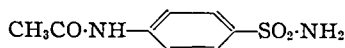
The chemistry of this new drug is most interesting. Sulfanilamide has the structural formula:



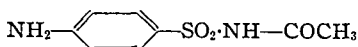
NUMBER 5 on the rapidly lengthening list of sulfonamide drugs which are aiding man's fight against disease in such a spectacular fashion, makes its appearance this month. It is *p*-aminobenzenesulfonylacetylimide, to be known as sulfacetimide, for the treatment of

When given orally, sulfanilamide must pass through the liver before it reaches the general circulation. In the liver a part of the drug is combined with acetic acid to form a therapeutically inactive compound of low solubility which is

excreted by way of the kidneys and urine. This process, known as acetylation or conjugation, not only inactivates up to 50 per cent of the sulfanilamide which has been administered, but the poorly-soluble acetyl derivative may precipitate from the urine, block kidney tubules, interfere with normal excretion, and cause damage to urinary organs. When sulfanilamide is acetylated in the human body the acetyl group becomes attached to the amino group and the resulting compound has the formula:



Sulfacetimide is a product of the acetylation of sulfanilamide, but in the laboratory it is possible to attach the acetyl group to the amino group attached to the SO_2 group instead of the amino group attached directly to the benzene ring in the para position, and the resulting compound has the formula:



This acetylated derivative, far from being inactive, is a well-tolerated, therapeutically effective drug.

Sulfacetimide reaches this country from England where it has been in use for some time under the name Albucid. Among the first published clinical reports on the compound was an article in *Lancet* last February written by Dr. R. Marinkovitch, Director of the City of Salford Venereal Disease Centre and Instructor in Venereal Disease at the Victoria University of Manchester. Dr. Marinkovitch administered the drug to 100 male gonorrhea cases. In 25 per cent of the cases smears were negative on the second day; in 61 per cent of the cases smears were negative on the third day; in 12 per cent of the cases smears were negative on the fourth day; and in the remaining 2 per cent of the cases smears were negative on the fifth day. A total cure-rate of 91 per cent was achieved.

He found it more readily absorbed than other sulfonamides, a higher concentration in the blood was achieved by the same dosage as was usually given of other sulfonamides, and a higher proportion of the drug was eliminated in unconjugated form. He found it well tolerated: only one case in the 100 developed a morbilliform eruption of the skin that lasted 24 hours; no cases showed fever, nausea, or headaches.

At Johns Hopkins University, Baltimore, "cradle of the sulfonamides," the drug has been given extensive trial at the James Buchanan Brady Urological Institute. Drs. Young, Hill, Jewett, and Satterthwaite, in the *Journal of Urology* for June 1941, reported striking results, *in vitro*, on *Staphylococcus aureus*, *Gamma Streptococcus fecalis*, *Echerichia*, *Aerobacter*, and *Proteus*, all of which are important organisms in urinary infections. They used it clinically on 105 cases of gonorrhea, chronic urethritis, and miscellaneous urinary tract infections and found it effective with no cases of leukopenia and no urinary suppression. Doses of 4 Gm. a day produced no headaches or general malaise but doses of more than 6 Gm. produced some reactions.

Drs. Welebir and Barnes, of Los Angeles, reported to the recent Cleveland meeting of the American Medical Association that they had used sulfacetimide in 200 cases of bacillary urinary tract infections and found it superior to other sulfonamides. They reported 85.5 per cent of their patients were cured and 12.5 per cent showed improvement; 80.9 per cent of the cases which had resisted treatment with sulfanilamide were cured with sulfacetimide; 73.3 per cent of mandelate-resistant cases were cured; and 100 per cent of the sulfathiazole-resistant cases were cured.

Sulfacetimide is available¹ in the form of a white, crystalline powder; odorless; slightly acid taste; melting point, 181°–182° C.; solubility at room temperature, 1 in 100. It is offered in 0.5-Gm. tablets. In urinary tract infections 4 Gm. per day are given for the first 3 days, 3 Gm. per day for the second 3 days and 2 Gm. per day for 4 days. Each of the daily doses should be divided into four parts. In acute gonorrhea, 4.5 Gm. are given daily for 7 days.

Thus the parent compound sulfanilamide, which has already supplied new therapeutic agents for the treatment of streptococcic, pneumococcic, and staphylococcic infections and of bacillary dysentery, now provides a new drug for the treatment of difficult urinary infections. Mandelic acid and other drugs, although contributing to the treatment of these infections, have left much to be desired. Perhaps sulfacetimide is the answer—thousands of sufferers from these infections hope so.

¹ Available under the trade name *Sulamyd* from the Schering Corporation, Bloomfield, N. J.

ISOTONIC, BUFFERED, PRESERVED

INTRANASAL EPHEDRINE SOLUTIONS

NEW STUDY IS FIRST STEP IN
PLACING SUCH PREPARATIONS
ON A PRACTICAL BASIS BY
ELIMINATING NECESSITY FOR
CALCULATIONS AND CHECKING
ON THE PART OF PHARMACIST

It takes considerable calculation to prepare an isotonic, buffered nasal spray—and considerable laboratory work to check the accuracy of the calculations. Until such time as exact formulas are developed for all medicaments commonly used in such preparations, so that the pharmacist does not need to calculate tonicity factors and determine p_H values, these solutions will probably never be used as extensively as their value merits.

L. Arrigoni, of the College of Pharmacy, University of Washington, and G. A. Tozer, prescription pharmacist in Everett, Washington, have made the first step toward placing these preparations on a practical basis for prescription use. They have undertaken the work of calculating and experimentally checking formulas for $\frac{1}{2}$, 1 and 2 per cent ephedrine sulfate solutions and offer pharmacists the fruit of their labor. The formulas, published in the Scientific Edition of THIS JOURNAL for July, are as follows:

0.5 PER CENT SOLUTION

Ephedrine sulfate.	0.5 Gm.
Potassium phosphate, mono- basic.....	0.5 Gm.
Sodium phosphate, dibasic... .	0.5 Gm.
Potassium chloride.....	0.15 Gm.
Sodium chloride.	0.15 Gm.
Dextrose, anhydrous.....	<u>0.9969 Gm.</u>
Preserved water, q. s.....	100.00 cc

1 PER CENT SOLUTION

Ephedrine sulfate.....	1.0 Gm.
Potassium phosphate, mono- basic.....	0.5 Gm.
Sodium phosphate, dibasic....	0.5 Gm.
Potassium chloride.....	0.15 Gm.
Sodium chloride.....	0.15 Gm.
Dextrose, anhydrous.....	<u>0.7867 Gm.</u>
Preserved water, q. s.....	100.00 cc.

2 PER CENT SOLUTION

Ephedrine sulfate.....	2.0 Gm.
Potassium phosphate, mono- basic.....	0.5 Gm.
Sodium phosphate, dibasic....	0.5 Gm.
Potassium chloride.....	0.15 Gm.
Sodium chloride.....	0.15 Gm.
Dextrose.....	<u>0.3663 Gm.</u>
Preserved water, q. s.....	100.00 cc.

The preserved water consists of 0.04 per cent of a combination of 65 parts of methyl *p*-hydroxybenzoate and 35 parts of propyl *p*-hydroxybenzoate in distilled water.

Arrigoni and Tozer state that the ideal vasoconstrictive nasal preparation should meet the following specifications.

1. *It should contain an effective vasoconstrictor in aqueous solution.* Ephedrine sulfate was chosen because it has marked vasoconstrictive properties, is stable in aqueous solution, and is readily obtainable. An aqueous solution is preferred over an oily solution to eliminate the interference with ciliary rhythm, interstitial fibrosis, giant cell formation and lipoid pneumonia which may follow the use of oily nasal preparations.

2. *Its tonicity should approximate that of the blood stream.* Such an isotonic solution is less irritating and favors the absorption of the vasoconstrictor.

3. *It should be buffered to a p_H level consistent with comfort and the effective treatment of inflammations of the nasal mucosa.* The p_H of nasal secretion is approximately 7.2 and solutions within a range of 6.0 to 7.6 are considered non-irritating. Since nasal and sinus secretions of patients afflicted with colds tend to become more strongly alkaline than normal, and it has been suggested that inflammation and congestion of the nasal passages may be relieved most effectively by acidification, the p_H of the nasal solution is adjusted to 6.7.

4. *It should be adequately preserved.* A 0.04 per cent solution of a combination of 65 parts of methyl *p*-hydroxy benzoate and 35 parts of propyl *p*-hydroxy benzoate is used because it has proved effective and produces no irritation.

MORE ACCEPTABLE, MORE EFFECTIVE OINTMENTS BY EMULSIFICATION

**SODIUM LAURYL SULFATE AND
CETYL ALCOHOL MAKE WATER
SOLUBLE OINTMENTS THAT
ARE PLEASING TO PATIENT
AND ARE MORE EFFECTIVE**

OINTMENTS made with benzoinated lard, petrolatum, lanolin, or combinations of such vehicles are obnoxious to the patient, particularly the feminine patient. They are greasy to the touch, they are conspicuous when applied, they stain wearing apparel, and they are difficult to remove from the skin. Cosmetically they are most unacceptable and although it is true that ointments are prescribed for the treatment of skin disorders and not to make the patient more attractive, the modern woman will not use a repulsive preparation if she can help it. The result is that physicians receive very poor coöperation from patients in the use of ointments. The patient has her prescription filled, uses the ointment once or twice and then tries to get along without it.

Dermatologists know this to be true and they realize that if their patients are to be expected to use regularly and faithfully the ointments they prescribe, these preparations must be improved to make them more acceptable esthetically.

But dermatologists have other more serious complaints against greasy ointments.

They know that a greasy ointment interferes with the radiation of heat from the area to which it is applied and, therefore, should not be used in acute inflammatory conditions of the skin.

They know that such ointment bases as petrolatum and lanolin form a barrier between the medication and the serous discharge of the lesion instead of serving as a medium through which the therapeutic agent could reach the skin.

They know that recent studies have shown

that bacteriostatic or bacteriocidal agents are more effective when prepared in a non-greasy base. Using *Staphylococcus aureus* as a test organism, various authors have tested ointments of mercury and phenol, made with greasy bases and water-soluble bases, and have reported that those made with water-soluble bases are as much as three times more effective.

A. J. Gibson, H. E. Parker, and A. Almus of the Health Service Pharmacy, University of Michigan, studying the matter further, have tested ointments made with greasy and water-soluble bases on *Microsporon lanosum*, commonly present in seborrhoea of the scalp, and *Trichophyton gypseum*, one of the fungi responsible for tinea or ringworm infections of the hands and feet. Using combinations of sulfur with salicylic acid, and salicylic acid with benzoic acid, two formulas prescribed at the University of Michigan Health Service for such infections, they found the ointments made with a water-soluble base to be distinctly superior. The sulfur and salicylic acid ointment made with the U. S. P. base produced no zone of growth inhibition in a culture of *Microsporon lanosum* after seven days of incubation, while the same ointment made with a water-soluble base produced a zone of 19 mm. The salicylic acid-benzoic acid ointment made with the U. S. P. base produced a zone of growth inhibition of 14 mm. in *Trichophyton gypseum*, while the same ointment made with a water-soluble base produced a zone of 25 mm.

A SUITABLE BASE

A study of the literature convinced the Michigan pharmacists that their objective was an emulsifier that would meet the following qualifications:

1. Would produce oil-in-water emulsions.
2. Would produce emulsions that are stable to most medicaments the pharmacist might be called on to incorporate in such a preparation.

Capsicum, Tincture of Capsicum—A local irritant with extensive use, but not considered important enough for the Pharmacopœia.

Carbromal—A mild sedative, closely related to and differing little from the extensively used and better known barbiturates. The amount of bromine in a dose is altogether too small to give a bromide action.

Cinchona, Compound Tincture of Cinchona—As antimalarial no longer employed. For the purposes of a bitter, remedies just as effective but simpler are available.

Compound Mixture of Opium and Glycyrrhiza—Brown Mixture represents what now is looked upon as an almost extinct type of galenical. In teaspoonful doses, its antimony and opium are too little to be therapeutically effective.

Compound Powder of Senna (Compound Licorice Powder)—As a senna preparation it is complicated by the presence of sulfur, which gives an unduly soft consistency to the stools, and often a very offensive odor.

Copaiba—An old-time urinary antiseptic, bad tasting and irritating to the stomach and kidneys. It is not a very effective antiseptic in the urinary tract, and simpler and better drugs for the purpose are available.

Dichloramine-T and Dakin's Solution—Dichloramine-T, the oil-soluble chlorine furnisher, and Dakin's solution (Diluted Solution of Sodium Hypochlorite) were deleted on the ground of their proven inefficiency. The water-soluble Chloramine-T was retained. For the slow and steady elimination of chlorine, Azochloramid in triacetin solution was considered superior and was admitted. The latter is now being extensively employed in Britain in preference to other chlorine antiseptics.

Diluted Acetic Acid was a "pharmaceutic necessity" in the manufacture of Solution of Ammonium Acetate and Vinegar of Squill, both of which have been deleted.

Elixir of Glycyrrhiza—The Syrup of Glycyrrhiza was substituted for the elixir on the basis of its more extensive employment and its freedom from alcohol.

Ethylhydrocupreine Hydrochloride—Introduced for the treatment of pneumonia it has proved too toxic for oral or parenteral use, and ineffective. It is still employed as a local application in pneumococcal infections of the eye but for this use it is rapidly being supplanted.

Extract of Nux Vomica—Of no use as a bitter, and for a strychnine effect it is more rational to employ strychnine salts.

Fluidextract of Belladonna Root—The exclusion of this follows the general principle that, where the dose is very small, such concentrated liquid preparations as fluidextracts are undesirable. It was formerly retained for the preparation of Belladonna Liniment, but this is no longer a Pharmacopœial preparation.

Iodoform—Vile-smelling and of low rating as an antiseptic. It is rapidly being replaced by more effective agents which lack the disagreeable odor.

Iron—This was elementary iron, in the form of fine bright wire, filings or powder. It was used in the preparation of Syrup of Ferrous Iodide which has been deleted.

Kino, Tincture of Kino—A tannic acid remedy, which does not reach the lower intestines as such.

Magma of Ferric Hydroxide—It was introduced as an arsenic antidote. At best it is not very efficient,

and there are conflicting reports as to any efficiency at all.

Mass of Mercury (Blue Mass)—Now considered an obsolete mercury galenical preparation.

Merbaphen—Its use has been largely abandoned in favor of the less toxic and more effective Saltyrgan, which is now admitted to the Pharmacopœia.

Nutgall, Nutgall Ointment—This is employed for its tannic acid, and preparations of the latter are to be preferred.

Oil of Santal—Irritating to the stomach and kidneys, and not a powerful antiseptic in the urinary tract. Much more effective chemical remedies are now available.

Pepsin—A powerful enzyme that is superfluous in therapeutics. For the digestion of protein it acts best in an acid medium of pH 1.5 to pH 2.5, and does not act at all in a medium above pH 4.0 to 4.5. In gastric achylia the needed acidity cannot be obtained in the stomach by any doses of acid that it is possible for a patient to swallow.

Pills of Aloe—Drastic cathartics no longer have Pharmacopœial approval. However, Aloe itself has been retained, and also Aloin, which is not drastic.

Podophyllum, Resin of Podophyllum—Also a drastic cathartic. Drastics are irritant to the whole alimentary tract, from the stomach down. If catharsis fails to take place, they are capable of producing inflammation of the intestines, and, after absorption, of the kidneys.

Potassium Chlorate—An antiquated mouth astringent. Any internal use for it is not justified.

Powder of Ipecac and Opium—Its main use is to produce sweating and sleep. Its ability to induce copious sweating depends mainly upon the hot drinks with which it is administered and the heavy covering of bed-clothes. The ipecac is nauseating, and in this powder can scarcely be said to be used for its expectorant value. The opium is simply "dope," to be better prescribed by itself if it is desired.

Pyrogallol—Not now much used as an antiseptic in therapeutics.

Quinine—This is the pure alkaloid, as distinguished from its salts. It is not used in therapeutics and is not required as a "pharmaceutic necessity."

Santonin—As an anthelmintic it has given place to newer remedies.

Serpentaria—This was a "pharmaceutic necessity" in the preparation of Compound Tincture of Cinchona, which has been deleted.

Sodium Acetate—The potassium salt is preferred and much more in use.

Solution of Ammonium Acetate—Believed to be of no therapeutic value.

Solution of Ferric Chloride, Tincture of Ferric Chloride—The solution was required for the preparation of the Tincture. As an anti-anemia remedy the tincture has been largely supplanted by iron preparations that do not injure the teeth and are less astringent.

Solution of Iron Tersulfate—Formerly used as a hemostatic, this makes a nasty mess when mixed with blood, and is locally irritating and even corrosive.

Spirit of Chloroform—Not desirable as a sedative and not needed as a carminative.

Spirit of Ethyl Nitrite—Not effective as a nitrite, and has no distinctive therapeutic properties.

Squill, Syrup of Squill, Tincture of Squill, Vinegar of Squill—Squill lacks the highest approval as a cardiac drug. Its use as an expectorant is based on erroneous observations.

Strychnine Nitrate—On account of the efflorescence of the sulfate, the nitrate was admitted to the last revision as a stable salt. However, it has not come into favor, and it was considered unnecessary to admit two strychnine salts.

Sulfonethylmethane—The limitations and disadvantages of "Trional" as a hypnotic have greatly lessened its use.

Syrup of Ferrous Iodide—Unsatisfactory as a means of administering either iron or iodine. The dose of each should be separately considered.

Terebene—Neither antiseptic in the respiratory tract, nor valuable as an expectorant.

Theobromine with Sodium Salicylate—Theobro-

mine with Sodium Acetate is considered better, and it eliminates the chance of harm to diseased kidneys from the salicylic radicle.

Valerian, Tincture of Valerian—Believed to be an over-rated drug in hysteria, and too malodorous as a carminative.

Veratrum Viride, Tincture of Veratrum Viride—A dangerously toxic drug, highly variable, and very little used. Its chief employment is in eclampsia, in which extremely large (and dangerous) doses are recommended by its advocates. Reports from many noted obstetricians are not favorable to its use in eclampsia.

Washed Sulfur—Three forms of sulfur were deemed unnecessary for the Pharmacopoeia. Precipitated Sulfur and Sublimated Sulfur are retained.

Yellow Mercurous Iodide—Formerly extensively administered as an oral antisiphilitic, this remedy has been supplanted by more desirable remedies.

LIST OF PROPOSED ADMISSIONS TO THE U. S. P. XII AS OF JULY 25, 1941

- Acacia
Acacia, Mucilage
Acetanilid
Acetone
Acetophenetidin
Acetophenetidin Tablets**
Acid Acetic
Acid Acetic, Glacial
Acid Acetylsalicylic
Acetylsalicylic Acid Tablets**
Acid Aminoacetic*
Acid Ascorbic
Ascorbic Acid Tablets*
Acid Benzoic
Acid Boric
Boric Acid Ointment
Acid Citric
Acid Hydriodic, Diluted
Hydriodic Acid Syrup
Acid Hydrochloric
Diluted Hydrochloric Acid
Acid Hypophosphorous
Acid Lactic
Acid Mandelic
Ammonium Mandelate Syrup**
Acid Nicotinic
Nicotinic Acid Tablets*
Acid Nitric
Acid Phosphoric
Diluted Phosphoric Acid
Acid Salicylic
Acid Sulfuric
Diluted Sulfuric Acid
Acid Tannic
Tannic Acid Glycerite
Tannic Acid Ointment
Tannic Acid Solution** (for burns)
Acid Tartaric
Acid Trichloroacetic
Adhesive Plaster, Sterile*
Adhesive Plaster (Unsterilized)
Agar
Allyl Isothiocyanate (Volatile Oil of Mustard)
Aloe**
Aloin
Alum
Exsiccated Alum
Alumina Hydrated*
Alumina Hydrated, Magma*
Aminopyrine
Aminoquin (Plasmochin)
Ammonia, Aromatic Spirit
Ammonia, Dilute Solution (Ammonia Water)
Ammonia, Strong Solution (Stronger Ammonia Water)
Ammonium Carbonate
Ammonium Chloride
Ammonium Chloride Capsules*
Amphetamine (Benzedrine)*
Amphetamine Sulfate*
Amphetamine Sulfate Tablets*
Amyl Nitrite
Antimony and Potassium Tartrate
Antipyrine
Apomorphine Hydrochloride (only in vacuum ampuls)
- Arsenic Trioxide
Arsenous Acid Solution
Arsphenamine
Aspidium
Aspidium Oleoresin
Atropine
Atropine Sulfate
Atropine Sulfate Tablets**
Barbital
Barbital Tablets**
Barbital, Soluble
Soluble Barbital Tablets**
Barium Sulfate
Belladonna Leaf
Belladonna Extract
Belladonna Tincture
Belladonna Ointment
Belladonna Root
Belladonna Plaster
Benzoin
Benzoin Tincture
Compound Benzoin Tincture
Betanaphthol
Bismuth and Potassium Tartrate
Bismuth and Potassium Tartrate Injection*
Bismuth Subcarbonate
Bismuth Subnitrate
Bismuth Subsalicylate
Bismuth Subsalicylate Injection**
Bismuth Sulfarsphenamine (Bismarsen)*
Blood (Normal Human Blood)*
Boroglycerin Glycerite
Brandy
Butaprobenez Sulfate (Butyn Sulfate)*
Butesin Picrate*
Butesin Picrate Ointment*
Butyl Aminobenzoate (Butesin)*
Caffeine
Caffeine Citrate
Caffeine with Sodium Benzoate
Caffeine with Sodium Benzoate Injection**
Calcium Carbonate, Precipitated
Calcium Chloride
Calcium Gluconate
Calcium Gluconate Injection**
Calcium Hydroxide
Calcium Hydroxide Solution
Calcium Iodobehenate
Calcium Lactate
Calcium Mandelate*
Calcium Phosphate, Tribasic
Calcium Sulfate*
Calcium Sulfate Bandage*
Camphor
Camphor Water
Camphor Spirit
Camphor Liniment
Camphor and Soap Liniment
Capsules (General Chapter)*
Carbarsone*
Carbon Dioxide
Carbon Tetrachloride
Carbon Tetrachloride Capsules*
Cascara Sagrada
Cascara Sagrada Extract
Cascara Sagrada Extract Tablets*
Cascara Sagrada Fluidextract
Aromatic Cascara Sagrada Fluidextract

* New Admissions for U. S. P. XII.

** New Admissions for U. S. P. XII which were official in N. F. VI or were approved for admission to N. F. VII.

Castor Oil
 Chalk, Prepared
 Chalk Mixture
 Chalk Powder Compound
 Charcoal, Activated
 Chaulmoogra Oil
 Chenopodium Oil
 Chenopodium Oil Capsules*
 Chiniofon
 Chiniofon Tablets* (enteric coated)
 Chloral Hydrate
 Chloramine-T
 Chlorazodine (Azochloramide)*
 Chlorazodine Solution*
 Chlorobutanol
 Chloroform
 Chloroform Water
 Chloroform Liniment
 Chromium Trioxide
 Chrysarobin
 Chrysarobin Ointment
 Cinnamon
 Cinnamon Spirit
 Citrated Human Plasma*
 Clove
 Clove Oil
 Cocaine
 Cocaine Hydrochloride
 Cod Liver Oil
 Cod Liver Oil Emulsion
 Cod Liver Oil, Non-destearinated
 Codeine
 Codeine Phosphate
 Codeine Phosphate Tablets**
 Codeine Sulfate
 Codeine Sulfate Tablets**
 Colchicum Seed
 Colchicum Seed Tincture
 Colchicine
 Colchicine Tablets*
 Copper Sulfate
 Cotton, Purified, Sterile
 Cresol
 Cresol, Saponated Solution
 Cyclopropane
 Decoction (General Formula)
 Desoxycortone Acetate (Desoxycorticosterone Acetate)*
 Dextrose (Glucose)
 Dextrose Injection**
 Dextrose and Sodium Chloride Injection**
 Digitalis
 Digitalis Capsules*
 Digitalis Injection*
 Digitalis, Powdered
 Digitalis Tablets*
 Digitalis Tincture
 Dihydromorphinone Hydrochloride (Dilaudid)*
 Dihydromorphinone Hydrochloride Tablets*
 Diphenylhydantoin Soluble (Dilantin Sodium)*
 Diphenylhydantoin, Soluble, Capsules*
 Diphtheria Antitoxin
 Diphtheria Toxoid
 Diphtheria Toxin, Diagnostic
 Emetine Hydrochloride
 Emetine Hydrochloride Injection**
 Ephedrine
 Ephedrine Hydrochloride
 Ephedrine Sulfate
 Ephedrine Sulfate Tablets*
 Epinephrine
 Epinephrine Hydrochloride Solution (1:1000)
 Epinephrine Hydrochloride Injection**
 Epinephrine Hydrochloride, Strong Solution* (1:100)
 Ergot
 Ergot Fluidextract
 Ergonovine Maleate*
 Ergonovine Maleate Tablets*
 Ergonovine Maleate Injection*
 Ergotamine Tartrate*
 Ergotamine Tartrate Tablets*
 Erythrityl Tetranitrate Tablets (formerly Erythrityl Tetranitrate Diluted)
 Estradiol Benzoate*
 Estrone*
 Estrone Injection (in Oil)*
 Estrone Tablets*
 Ether (for Anesthesia)
 Ethyl Aminobenzoate
 Ethyl Aminobenzoate Ointment*
 Ethyl Carbamate**
 Ethyl Chaulmoograte
 Ethyl Chloride
 Ethylene
 Ethylmorphine Hydrochloride

Eucaine Hydrochloride
 Eucatropine Hydrochloride (Euphthalmine HCl)*
 Eucalyptol
 Eucalyptus Oil
 Eugenol
 Extracts (General Formula)
 Fluidextracts (General Formula)
 Fluorescein, Soluble
 Formaldehyde Solution
 Gauze, Absorbent*
 Gauze, Absorbent, Sterile*
 Gauze, Adhesive Absorbent*
 Gauze Bandage*
 Gelatin
 Gentian
 Compound Gentian Tincture
 Ginger
 Ginger Fluidextract
 Globulin, Human Immune*
 Glycerin Suppositories
 Glyceryl Trinitrate Spirit
 Glyceryl Trinitrate Tablets
 Halibut Liver Oil*
 Halibut Liver Oil Capsules*
 Hexylresorcinol*
 Histamine Phosphate
 Histamine Phosphate Injection (formerly Solution)
 Homatropine Hydrobromide
 Homatropine Lamels*
 Human Serum*
 Hydrogen Peroxide Solution
 Hyoscyamus
 Extract of Hyoscyamus
 Tincture of Hyoscyamus
 Infusions (General Formula)
 Injections (General Chapter)*
 Iodophthalein Soluble
 Iodine
 Iodine Ointment
 Iodine Solution, Compound
 Mild Iodine Solution (Mild Tincture)
 Strong Iodine Solution (Iodine Tincture)
 Iodized Oil
 Ipecac
 Ipecac Fluidextract
 Ipecac Syrup
 Insulin Injection*
 Insulin, Crystalline Zinc, Injection*
 Insulin, Protamine Zinc, Injection*
 Iron and Ammonium Citrate
 Iron and Ammonium Citrate Capsules*
 Iron and Ammonium Citrate, Green
 Iron (Ferrous) Carbonate Mass
 Iron (Ferrous) Carbonate Pills (10 gr.)
 Iron (Ferrous) Sulfate
 Iron (Ferrous Sulfate, Exsiccated)*
 Ferrous Sulfate Tablets*
 Iron, Reduced
 Lactose
 Lamels (Eye Discs)*
 Lead Acetate
 Linseed
 Liver Extract
 Liver Injection
 Liver Extract Solution
 Magnesia Magma
 Magnesium Carbonate
 Magnesium Citrate Solution
 Magnesium Oxide
 Magnesium Oxide, Heavy
 Magnesium Phosphate Tribasic
 Tribasic Magnesium Phosphate Tablets*
 Magnesium Sulfate
 Magnesium Trisilicate*
 Magnesium Trisilicate Tablets*
 Malt Extract
 Menadione (Vitamin K Activity)*
 Menadione Tablets*
 Menthol
 Mercurin* (Pharmaceutical Necessity)
 Mercuphylline (Mercupurin Solution)*
 Mercury
 Strong Mercurial Ointment
 Mild Mercurial Ointment
 Mercury with Chalk
 Mercury, Ammoniated
 Ammoniated Mercury Ointment
 Mercury Oleate
 Mercury Bichloride
 Mercury Bichloride Tablets, Large
 Mercury Bichloride Tablets, Small
 Mercury (Mercurous) Chloride, Mild
 Mercury (Mercuric) Oxide, Yellow
 Yellow Mercuric Oxide Ointment
 Mercury (Mercuric) Salicylate
 Mercury Salicylate Injection**
 Mercury (Mercuric) Succinimide
 Mersalyl (Salyrgan)*

* New Admissions for U. S. P. XII.

** New Admissions for U. S. P. XII which were official in N. F. VI or were approved for admission to N. F. VII.

Mersalyl with Theophylline Injection*
 Metarsen (Mapharsen)*
 Methenamine
 Methenamine Tablets*
 Methyl Salicylate
 Methylrosaniline Chloride
 Methylthionine Chloride
 Morphine Sulfate
 Morphine Sulfate Tablets**
 Mustard, Black
 Mustard Plaster
 Myrrh
 Myrrh Tincture
 Neosarsphenamine
 Neocinchophen
 Neocinchophen Tablets**
 Neostigmine Bromide (Prostigmine Br)*
 Neostigmine Bromide Tablets*
 Neostigmine Methyl Sulfate* (Prostigmine M. S.)
 Neostigmine Methyl Sulfate Injection*
 Nicotinamide*
 Nicotinamide Tablets*
 Nitrogen Monoxide
 Nux Vomica
 Nux Vomica Tincture
 Oleovitamin A
 Oleovitamin A Capsules*
 Oleovitamin A and D
 Oleovitamin A and D Capsules*
 Oleovitamin A and D, Concentrated
 Concentrated Oleovitamin A and D Capsules*
 Oleovitamin D, Synthetic
 Opium
 Opium Tincture
 Camphorated Opium Tincture
 Opium, Granulated
 Opium, Powdered
 Ox Bile
 Ox Bile Extract
 Ox Bile Extract Tablets*
 Oxygen
 Ouabain*
 Ouabain Injection*
 Orange Peel, Bitter
 Bitter Orange Peel Tincture
 Pancreatin
 Paraldehyde
 Parathyroid Solution
 Pelletierine Tannate
 Pentobarbital Soluble
 Soluble Pentobarbital Tablets*
 Pentothal Sodium*
 Peppermint
 Peppermint Oil
 Peppermint Spirit
 Peru Balsam
 Petrolatum, Liquid
 Liquid Petrolatum Emulsion
 Phenacaine Hydrochloride
 Phenobarbital
 Phenobarbital Elixir**
 Phenobarbital Tablets**
 Phenobarbital, Soluble
 Soluble Phenobarbital Tablets**
 Phenol
 Phenol, Liquefied
 Phenol Ointment
 Phenolphthalein
 Phenolsulfonphthalein
 Phenolsulfonphthalein Injection*
 Phenyl Salicylate
 Physiological Solution of Chlorides (Ringer's Solution)**
 Physostigmine Salicylate
 Physostigmine Lamels*
 PicROTOXIN*
 PicROTOXIN Injection*
 Pilocarpine Nitrate
 Pine Needle Oil, Dwarf
 Pituitary Posterior (Biologically Standardized Powder)
 Posterior Pituitary Injection** (formerly Solution)
 Potash, Sulfurated
 Potassium Acetate
 Potassium Arsenite Solution
 Potassium Bicarbonate
 Potassium Bitartrate
 Potassium Bromide
 Potassium Carbonate
 Potassium Chloride**
 Potassium Chloride Tablets*
 Potassium Citrate
 Effervescent Potassium Citrate
 Potassium and Sodium Tartrate
 Compound Effervescent Powders
 Potassium Hydroxide

Potassium Iodide
 Potassium Nitrate
 Potassium Permanganate
 Procaine Hydrochloride
 Progesterone*
 Progesterone Injection*
 Quinacrine (Atabrine)*
 Quinacrine Tablets*
 Quinidine Sulfate
 Quinidine Sulfate Tablets*
 Quinine Ethylcarbonate
 Quinine Bisulfate
 Quinine Dihydrochloride
 Quinine and Urea Hydrochloride
 Quinine Hydrochloride**
 Quinine Hydrochloride and Ethyl Carbamate Injection**
 Quinine Sulfate
 Quinine Sulfate Tablets*
 Radium*
 Resorcinol
 Rhubarb
 Rhubarb Extract
 Aromatic Rhubarb Tincture
 Aromatic Rhubarb Syrup
 Riboflavine*
 Riboflavine Tablets*
 Rice Polishings (Tikitiki)*
 Rice Polishings Extract*
 Rosin Cerate
 Saccharin
 Saccharin, Soluble
 Saccharin Soluble Tablets**
 Scarlet Fever Streptococcus Antitoxin
 Scarlet Fever Streptococcus Toxoid
 Scopalamine Hydrobromide
 Senna
 Senna Fluidextract
 Senna Syrup
 Serum, Antimeningococcic
 Serum, Antipneumococcic (All approved types)
 Serum, Human Scarlet Fever Immune*
 Serum, Human Measles, Immune*
 Silver Nitrate
 Silver Nitrate, Toughened
 Silver Protein, Mild
 Silver Protein, Strong
 Soap, Soft
 Soft Soap Liniment
 Sodium Benzoate
 Sodium Bicarbonate
 Sodium Biphosphate
 Sodium Borate
 Sodium Bromide
 Sodium Cacodylate
 Sodium Carbonate Monohydrated
 Sodium Chloride
 Sodium Chloride Physiological Solution
 Sodium Citrate
 Sodium Citrate Solution, Sterile**
 Sodium Hydroxide
 Sodium Hypochlorite Solution
 Sodium Iodide
 Sodium Nitrite
 Sodium Nitrite Tablets**
 Sodium Perborate
 Sodium Phosphate
 Effervescent Sodium Phosphate
 Exsiccated Sodium Phosphate
 Sodium Salicylate
 Sodium Salicylate Tablets**
 Sodium Sulfate
 Sodium Sulfite*
 Sodium Thiosulfate
 Spearmint
 Spearmint Oil
 Spearmint Spirit
 Stomach
 Stramonium
 Stramonium Extract
 Stramonium Tincture
 Strophanthin
 Strophanthin Injection*
 Strychnine Sulfate
 Strychnine Sulfate Tablets**
 Styra
 Sulfanilamide
 Sulfanilamide Tablets**
 Sulfarsphenamine*
 Sulfapyridine*
 Sulfapyridine Tablets*
 Sulfapyridine Soluble (Sterile for Injection)*
 Sulfathiazole*
 Sulfathiazole Tablets*
 Sulfbromophthalein (Bromsulphalein) Soluble*
 Sulfbromophthalein Soluble Injection*
 Sulfur, Precipitated
 Sulfur Ointment
 Sulfur, Sublimed

* New Admissions for U. S. P. XII.

** New Admissions for U. S. P. XII which were official in N. F. VI or were approved for admission to N. F. VII.

Suppositories (General Formula)
Suprarenal Cortex, Extract (Cortin)*
Suprarenal Cortex Injection*
Surgical Gut (Sterile)
Surgical Silk*
Surgical Silk, Sterile*
Suture, Surgical, Synthetic*
Suture, Surgical, Synthetic, Sterile*
Tablets (General Chapter)*
Tar, Juniper
Tar, Pine
Pine Tar Ointment
Pine Tar Syrup
Tar, Rectified Oil
Terpin Hydrate
Testosterone Propionate*
Testosterone Propionate Injection*
Testosterone Propionate Tablets*
Tetrachloroethylene Capsules*
Theobromine with Sodium Acetate*
Theobromine with Sodium Acetate Capsules*
Theophylline
Theophylline Tablets*
Theophylline with Ethylenediamine
Theophylline with Ethylenediamine Tablets*
Theophylline with Ethylenediamine Injection*
Theophylline with Sodium Acetate
Thymol
Thymol Iodide
Thymol
Thyroid
Thyroid Tablets*
Thyroxin
Thyroxin Tablets*
Tinctures (General Formula)
Tolu Balsam
Tolu Balsam Syrup
Tolu Balsam Tincture
Totaquine*
Tribromoethanol (Avertin)*
Tribromoethanol Solution (Avertin with Amylene Hydrate)*
Trichloroethylene (pearls)*
Trinitrophenol
Triturations (General Formula)
Tryparsamide
Tuberculin, Old
Turpentine Oil
Turpentine Oil Emulsion
Turpentine Oil, Rectified
Urea*
Vaccine, Rabies
Vaccine, Smallpox
Vaccine, Typhoid
Vaccine (Typhoid-Paratyphoid)
Whisky
Wild Cherry
Wild Cherry Syrup
Yeast*
Yeast Tablets*
Zinc Acetate
Zinc Chloride
Zinc Oxide
Zinc Oxide Ointment
Zinc Stearate
Zinc Sulfate

VEHICLES, FLAVORS, COLORS, SOLVENTS AND OTHER AIDS

Acid, Oleic
 Acid, Stearic
 Alcohol
 Alcohol, Diluted
 Alcohol, Dehydrated
 Almond Oil Bitter
 Almond Oil, Expressed
 Althaea
 Amylene Hydrate*
 Anise Oil
 Anise Spirit
 Anise Water
 Aromatic Elixir
 Aromatic Waters (General Formula)
 Bentonite**
 Benzene, Purified Petroleum
 Caraway
 Cardamon Seed
 Compound Cardamon Tincture
 Cerate
 Cinnamon Oil
 Cinnamon Water
 Citric Acid Syrup (Lemon)
 Cochineal
 Collodion
 Collodion Flexible
 Coriander Oil
 Cotton Seed Oil
 Cudbear**
 Eriodictyon
 Eriodictyon Fluidextract
 Ethyl Oxide (for reagent and solvent)
 Fennel Oil
 Fennel Water
 Glucose, Liquid
 Glycerin
 Glycerinated Gelatin
 Glycerinated Hamelin
 Glycerol
 Glycerol Extract
 Pure Glycerol Extract
 Glycerol and Hamelin
 Glycerol Syrup**
 Honey
 Juniper Oil
 Lard
 Benzoinated Lard
 Lavender Oil
 Lavender Spirit
 Compound Lavender Tincture
 Lemon Peel
 Lemon Peel Tincture
 Lemon Oil
 Linseed Oil
 Lycopodium
 Nutmeg
 Nutmeg Oil
 Ointment (Simple Ointment)
 Ointment, Yellow (Simple Ointment with Yellow Wax)*
 Ointment (Absorption-base-type)*
 Ointment of Rose Water
 Olive Oil
 Orange Flower Water
 Orange Flower Syrup
 Orange Oil
 Orange Peel Sweet
 Orange Spirit Compound
 Orange Syrup
 Orange Peel, Sweet Tincture
 Peppermint Water
 Petrolatum
 Petrolatum, Liquid Light
 Petrolatum, White
 Pyroxylin
 Red Saunders
 Rose Oil
 Rose Water
 Rose Water, Stronger
 Rosemary Oil
 Rosin
 Sarsaparilla
 Sarsaparilla Fluidextract
 Compound Sarsaparilla Syrup
 Sassafras Oil
 Siliceous Earth, Purified
 Soap, Hard
 Soda Lime*
 Sodium Stearate
 Spearmint Water
 Spermaceti
 Starch
 Starch Glycerite
 Sucrose
 Suet, Prepared
 Syrup
 Talc, Purified
 Theobroma Oil
 Tragacanth
 Tragacanth Mucilage
 Vanillin
 Water
 Distilled
 Distilled Sterile
 Water for Injection*

* New Admissions for U. S. P. XII.

** New Admissions for U. S. P. XII which were official in N. F. VI or were approved for admission to N. F. VII.

Linseed Oil
 Lycopodium
 Nutmeg
 Nutmeg Oil
 Ointment (Simple Ointment)
 Ointment, Yellow (Simple Ointment with
 Yellow Wax)*
 Ointment (Absorption-base-type)*
 Ointment of Rose Water
 Olive Oil
 Orange Flower Water
 Orange Flower Syrup
 Orange Oil
 Orange Peel Sweet
 Orange Spirit Compound
 Orange Syrup
 Orange Peel, Sweet Tincture
 Peppermint Water
 Petrolatum
 Petrolatum, Liquid Light
 Petrolatum, White
 Pyroxylin
 Red Saunders
 Rose Oil
 Rose Water
 Rose Water, Stronger
 Rosemary Oil
 Rosin
 Sarsaparilla
 Sarsaparilla Fluidextract
 Compound Sarsaparilla Syrup
 Sassafras Oil
 Siliceous Earth, Purified
 Soap, Hard
 Soda Lime*
 Sodium Stearate
 Spearmint Water
 Spermaceti
 Starch
 Starch Glycerite
 Sucrose
 Suet, Prepared
 Syrup
 Talc, Purified
 Theobroma Oil
 Tragacanth
 Tragacanth Mucilage
 Vanillin
 Water
 Distilled
 Distilled Sterile
 Water for Injection*
 Wax, Yellow
 Wax, White
 Wool Fat
 Hydrated Wool Fat

ARTICLES OFFICIAL IN THE U. S. P. XI BUT NOT ADMITTED TO THE U. S. P. XII

Acetum Scillae
 Acidum Aceticum Dilutum
 Acidum Acetylannicum
 Acidum Sulfuricum Aromaticum
 Aconitum
 Acridavina
 Acridavinae Hydrochloridum
 Aethylhydrocupreinae Hydrochloridum
 Albumini Tannas
 Ammonii Benzoas
 Ammonii Bromidum
 Ammonii Salicylas
 Arseni Triiodidum
 Asafoetida
 Bismuthi Subgallas
 Calci Bromidum
 Calci Creosotas
 Cannabis
 Cantharis
 Capsicum
 Carbromalum
 Ceratum Cantharidis
 Cinchona
 Copaiba
 Creosoti Carbonas
 Creosotum
 Dichloramina-T
 Elixir Glycyrrhizae
 Emplastrum Cantharidis
 Emulsum Asafoetidae
 Extractum Cannabis
 Extractum Nucis Vomicae
 Ferrum
 Fluidextractum Belladonnae Radicis
 Fluidextractum Cannabis
 Galla
 Guaiacol
 Hydrargyri Iodidum Flavum
 Iodoformum
 Kino
 Liquor Ammonii Acetatis
 Liquor Ferri Chloridi
 Liquor Ferri Tersulfatis

Liquor Sodii Hypochloritis Dilutus
 Magma Ferri Hydroxidi
 Massa Hydrargyri
 Merbaphenum
 Mistura Opii et Glycyrrhizae Composita
 Oleum Maydis
 Oleum Santali
 Paraffinum
 Paraffinum Chlorinatum
 Pepsinum
 Pilulae Aloes
 Podophyllum
 Potassii Chloras
 Pulvis Ipecacuanhae et Opii
 Pulvis Sennae Compositus
 Pyrogallol
 Quinina
 Resina Podophylli
 Santoninum
 Scilla
 Serpentaria
 Sodii Acetas
 Spiritus Aethylis Nitritis
 Spiritus Chloroformi
 Strychninae Nitras
 Sulfonethylmethanum
 Sulfur Lotum
 Syrupus Ferri Iodidi
 Syrupus Scillae
 Terebenum
 Theobromina cum Sodii Salicylate
 Tinctura Aconiti
 Tinctura Cantharidis
 Tinctura Capsici
 Tinctura Cinchonae Composita
 Tinctura Ferri Chloridi
 Tinctura Kino
 Tinctura Scillae
 Tinctura Valerianae
 Tinctura Veratri Viridis
 Unguentum Galle
 Valeriana
 Veratrum Viride

APPLICATION FOR MEMBERSHIP IN THE

American Pharmaceutical Association

Approving the objects of the American Pharmaceutical Association, I hereby apply for membership in the Association and subscribe for the "Journal of the American Pharmaceutical Association." I enclose \$_____ for my membership dues and subscription.

Check which you desire:

- ☐ Membership with the PRACTICAL PHARMACY EDITION, at \$5.00.
☐ Membership with the SCIENTIFIC EDITION, at \$6.00.
☐ Membership with BOTH EDITIONS, at \$7.00.

Name in Full _____
 (Print name in full—Initials are not sufficient)

Number and Street _____

Date _____ Town _____ State _____

Paid \$ _____ No. _____

This application with the first year's payment may be sent to the Chairman of the Membership Committee, the Secretary or any officer of the A. Ph. A.

E. F. KELLY, Secretary,
 2215 Constitution Ave.,
 Washington, D. C.

Druggists' Digest

OF NEW FORMULAS, RECENT PHARMACEUTICAL DEVELOPMENTS, AND OTHER PROFESSIONAL DATA

CHLOROFORM STOPS ITCHING OF INSECT BITES

The local application of a small amount of chloroform with a piece of cotton will promptly stop the itching of certain mosquitoes, flies, gnats and other insects, according to W. A. Hoffman, of the School of Tropical Medicine, San Juan, Puerto Rico.

When applied, the chloroform produces a transient burning sensation. It must, of course, be kept away from the eyes and mucous membranes.

—*Science*, 94 (2429), July 18 (1941), 66

SODIUM PERBORATE FOR TRICHOMONAS VAGINALIS

The flagellate protozoon trichomonad responsible for *trichomonas vaginalis* vaginitis is destroyed by oxygen and Dr. E. C. Smith, of the Department of Obstetrics and Gynecology, School of Medicine, Louisiana State University, New Orleans, has developed a sodium perborate treatment for this infection.

After diagnosis, the vaginal secretion is tested with nitrozone paper to determine its pH. A pH of 6.0, which is usual in trichomoniasis, is sufficiently acid to decompose sodium perborate. If the secretion is not sufficiently acid, a douche of lactic acid, 1 dram to 1 quart of warm water, is taken before treatment is begun.

One capsule (No. 12 veterinary) containing 10 grains of sodium perborate is inserted deep into the posterior vaginal fornix, either by instrument or rubber gloved finger. Lubrication of the capsule with jelly facilitates its insertion.

The patient is told to carry out the same procedure for 15 consecutive days and to take a vaginal douche of sodium perborate solution, 15 Gm. to 1 quart of luke warm water, at bedtime each night. The douche is taken slowly in a reclining position.

If the vaginal reaction was originally acid, the douches are continued for 75 days. If the reaction was alkaline, a daily douche of lactic acid or of vinegar is taken for the same period.

—*New Orleans Med. and Surg. Jour.* (June 1941)

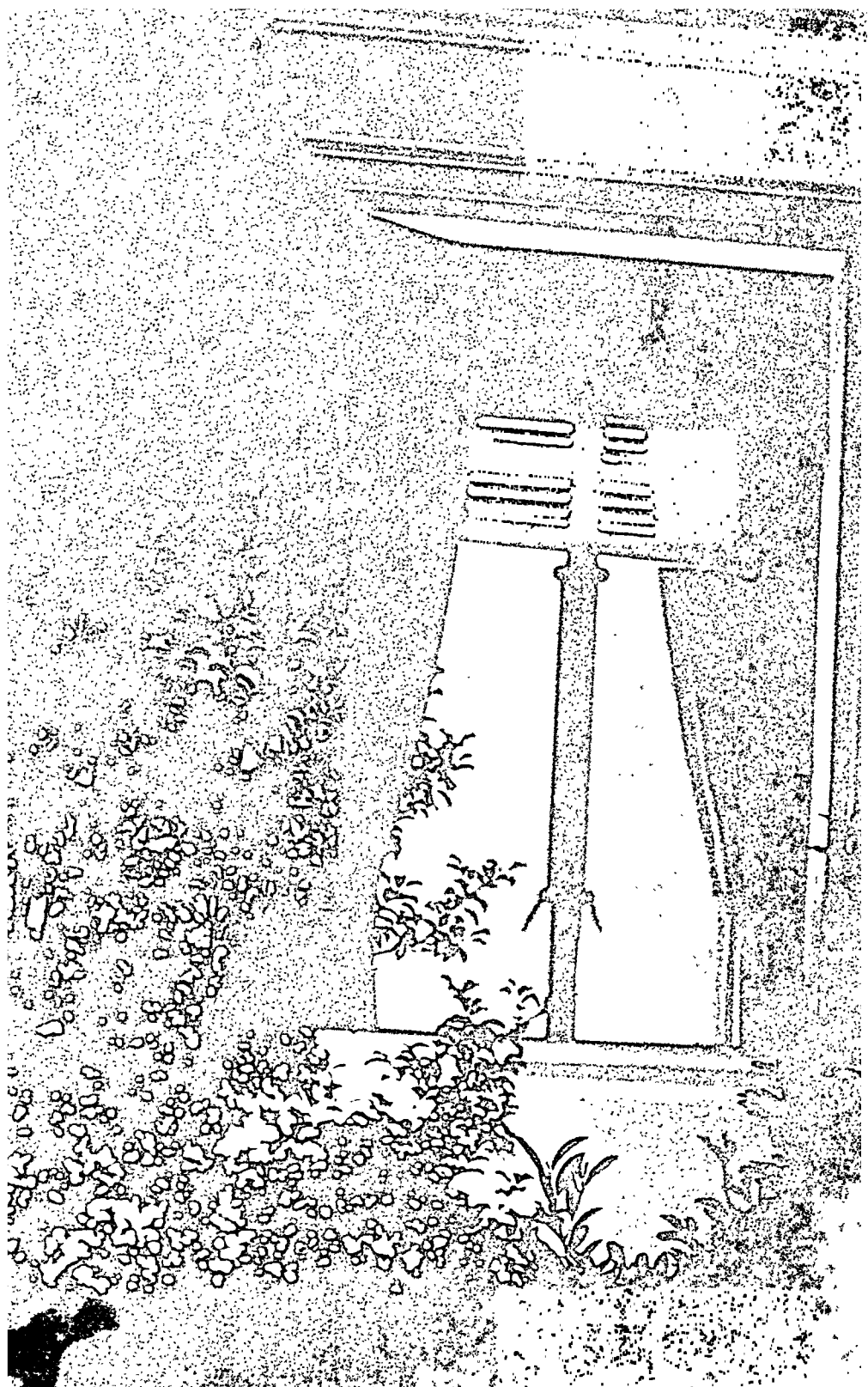
FUNGISTATIC OINTMENTS OF THYMOL AND CINNAMON

Ointments of thymol and oil of cinnamon are extremely effective fungistatic agents, according to F. J. O'Brien and W. J. Bonisteel, of Fordham University. Tested against *Trichophyton interdigitale* and *monilia albicans*, these drugs in ointment form proved more effective than ointment of yellow oxide of mercury, benzoic acid compound, iodine, ammoniated mercury, sulfur, phenol, or three proprietary products: Merthiolate, Kerolysin and Fungi Rex. So favorable were the results of their *in vitro* studies, that they have suggested the clinical trial of an ointment made by the following formula:

Thymol.....	2.5 Gm.
Oil of Cinnamon.....	1.0 cc.
Cold cream or	
Vanishing cream, q. s.....	100.0 Gm.

(Iodine Ointment, U. S. P., may be used as the base if the bacteriostatic action of iodine is desired in addition to the fungistatic action of thymol and oil of cinnamon.)

So effective were ointments of thymol and oil of cinnamon that at one point in the work *Trichophyton interdigitale* had to be discarded as a test organism because no growth whatsoever appeared on plates being tested with these two drugs. Instead of merely producing a clear zone of inhibited growth, the ointments of thymol and oil of cinnamon prevented growth of the fungus on the entire plate. In another test when maltose agar slants were inoculated with this fungus, 1 Gm. of ointment of thymol or oil



of cinnamon was placed on the tip of a cotton plug, the plug inserted in the test-tube so that the ointment remained at least one inch away from the media, and the tube incubated for fourteen days, the vapors of the two drugs inhibited growth of the fungus. When ointment of thymol was tested against the more resistant *Monilia albicans* it was observed that the growth of the organism outside of the clear zone was less dense than was the case with other ointments, suggesting that thymol may diffuse over a larger area than recorded by the clear zone in sufficient concentration to be slightly inhibitory.

Of the official ointments tested, benzoic acid compound was found to be the most effective. Ointments of yellow mercuric oxide and ammoniated mercury, all of which are highly bacteriostatic, had no fungistatic value against *Monilia albicans* and had but slight value against *Trichophyton interdigitale*. Iodine was fairly effective against the latter organism but had little effectiveness against the former.

Phenol, although highly fungicidal in solution form, was found to have no inhibitory power in the form of the official ointment against either organism.

In order to determine whether the ointment base had any effect on the fungistatic value of the preparation, the ointments of oil of cinnamon, thymol, chlorthymol, and phenol were made with cold cream, vanishing cream, and a mixture of petrolatum, wax and lanolin. None of the bases had any inhibitory power in themselves, but the cold cream and vanishing cream per-

mitted a greater diffusion of the medicinal agent into the media than did the petrolatum and, therefore, are to be preferred.

—*Jour. A. Ph. A. (Sci. Ed.)*, 30 (July, 1941), 191-196.

SODIUM HEXAMETAPHOSPHATE FOR BISMUTH GINGIVITIS

Many patients receiving bismuth therapy for syphilis develop a bluish pigmentation of the gums and lesions of the mucous membranes of the mouth. Dr. I. M. Felsher and K. K. Jones, of Chicago, have found that a tooth powder of sodium hexametaphosphate eliminates the oral uncleanness, tartar on enamel and the infection responsible for these oral manifestations. They prescribe the following combination:

Sodium Hexametaphosphate.....	15.
Talc.....	85.

Patients are instructed to use it on their tooth-brushes after each meal and at bedtime. It is not injurious to tissues, according to the authors. The use of this tooth powder reduced noticeably the incidence and severity of bismuth reactions in the oral cavity and permitted the resumption of treatment with bismuth in some cases in which its use had been discontinued because of the patient's intolerance.

—*Jour. Invest. Derm.*, 4:4 (April, 1941) 95-180.

OXIDIZING MOUTH WASH IN VINCENT'S INFECTION

F. D. Francis, Associate Professor, Department of Oral Pathology and Periodontia, State University of Iowa, recommends that patients use an oxidizing mouth wash during treatment for Vincent's Infection. The formula for such a preparation is given as follows:

Fowler's Solution	6 ounces
Glycerin	4 ounces
Hydrogen Peroxide	1½ gallon
Distilled Water . . . q. s.	1 gallon

Sufficient copper sulfate is added to make a 0.1 per cent solution. This ingredient is added immediately before the product is dispensed. The copper sulfate reduces fungus activity.

—*Jour. A. D. A.*, 28, 8 (August 1941), 1296-1303.

PICTURE OF THE MONTH

The light in the pharmaceutical association secretary's office burns late. Hours after most men have gone home for the day you will find the secretary at his desk working on legislative problems, food and drug law interpretations, a plan for professional relations, or some other matter of vital concern to the pharmacists who are members of his association.

This picture happens to be of the office of Dr. E. F. Kelly, secretary of the American Pharmaceutical Association, in the American Institute of Pharmacy, Washington, D. C., but it might just as well be the office of any one of the forty-eight pharmaceutical association secretaries on whom the pharmacists of the country depend for counsel and leadership.

GEORGE D. BEAL NAMED

REMINGTON MEDALLIST FOR 1941

NEW YORK BRANCH RECOGNIZES
WORK OF PHARMACIST-CHEMIST
WHO HAS BEEN RESPONSIBLE
FOR THE DEVELOPMENT AND
MAINTENANCE OF A. PH. A.
LABORATORIES IN WASHINGTON

DR. George Denton Beal, Assistant Director of the Mellon Institute of Industrial Research, Pittsburgh, has been named as the recipient of the Remington Honor Medal for 1941. This medal, highest honor in the profession, is awarded annually by the New York Branch of

the AMERICAN PHARMACEUTICAL ASSOCIATION to the man who, in the opinion of the past-presidents of the ASSOCIATION, has contributed most to the profession of pharmacy during the preceding year or whose contributions over a number of years are deserving of special recognition.

Pharmacist, chemist, teacher and research worker, Dr. Beal served as president of the AMERICAN PHARMACEUTICAL ASSOCIATION in 1937 and he was largely instrumental in the establishment of the ASSOCIATION's laboratories in the AMERICAN INSTITUTE OF PHARMACY, Washington, D. C. He was born in Scio, Ohio, August 12, 1887, the son of James Hartley Beal and



Dr. George Denton Beal, Assistant Director of the Mellon Institute of Industrial Research, Pittsburgh, whose contributions to pharmacy have earned the Remington Honor Medal for 1941.

*Photo by
Blackstone Studios*

Fannie Snyder (Young) Beal. His father served as president of the A. Ph. A. in 1906 and was himself the recipient of the first Remington Medal in 1919.

Dr. Beal was graduated by the Scio College of Pharmacy in 1906 with the degree of Ph.C., and continued his studies simultaneously at that institution and at Scio College, earning the degrees of Ph.B. and Phar.D. In 1908 he entered Columbia University as a graduate student in Chemistry and he earned the degrees of A.M. and Ph.D. During the school year 1910-11 he held the Richard Butler Scholarship in Chemistry.

Following graduation Dr. Beal joined the faculty of the University of Illinois, holding the positions, successively, of Instructor in Chemistry, Associate in Chemistry, Assistant Professor in Chemistry, Associate Professor of Analytical and Food Chemistry, and Professor of Analytical and Food Chemistry. In 1926 he joined the Mellon Institute of Industrial Research as Assistant Director.

He has been active in the American Chemical Society, American Association for the Advancement of Science, American Health Association, American Society for Testing Materials, National Conference on Pharmaceutical Research and the Pennsylvania Academy of Science as well as in the AMERICAN PHARMACEUTICAL ASSOCIATION.

He is a director of the Pittsburgh College of Pharmacy and a Trustee of Mt. Union College and of the Philadelphia College of Pharmacy and Science.

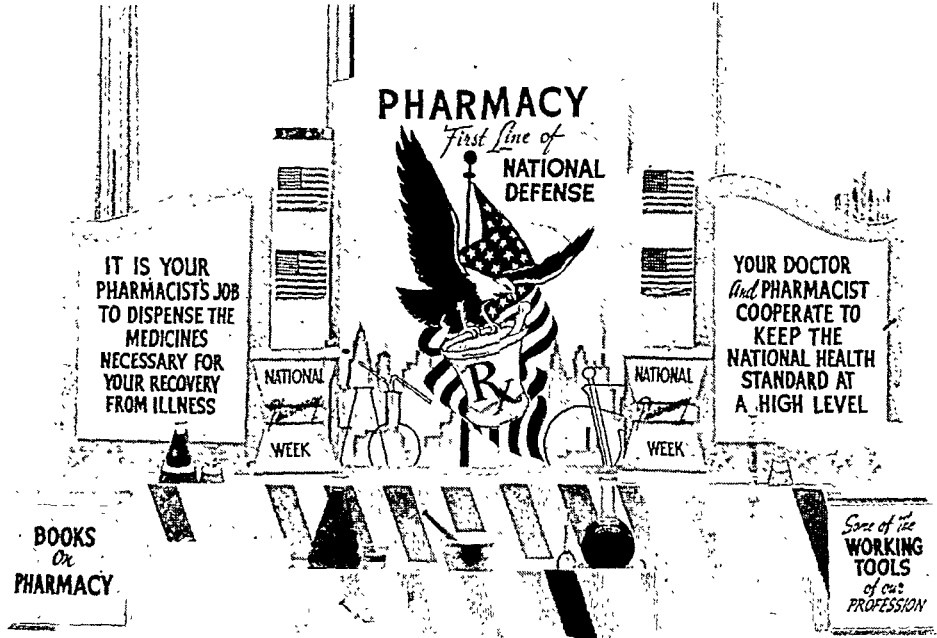
Dr. Beal has served as chairman of the Committee on Laboratory of this ASSOCIATION ever since that committee was created. His interest in research naturally made him one of the most enthusiastic proponents of the laboratories when they were in the discussion stage and when the ASSOCIATION decided to go ahead with the project, he threw himself wholeheartedly into the task of financing, organizing and staffing the laboratories. The enviable standing which the ASSOCIATION's laboratories enjoy to-day among governmental and scientific groups reflects not only his vision but the soundness of his guidance. He was not one to be content with merely suggesting the creation of the laboratories and leaving the details up to someone else to work out; he personally supervised every step in their development and, with Dr. E. F. Kelly, raised the money for their maintenance.

A distinguished son of a distinguished father, Dr. George D. Beal has earned the Remington Honor Medal in the fullest sense of the word. Its award recognizes his services to pharmacy but it cannot honor him to the extent his own accomplishments have already distinguished him.

SEND FOR THIS BUSINESS YARDSTICK

For nine years Eli Lilly and Company have made known to the retail drug trade their willingness to evaluate the operating figures of retail drug stores and to supply a report with constructive suggestions calculated to assist retail druggists to overcome whatever conditions appear to be militating against the success of their management. In no sense can this service be interpreted to mean that a druggist is being advised on how he should run his business. The analyses are based on comparisons of the operating figures of successful stores by size of the town or city, by zones and by volume of sales. The service is offered without charge or obligation of any kind and in strict confidence. By the end of the business year a wealth of data has been gathered together and a most interesting economic report is published and distributed without charge to those participating and to others in the drug business who are interested and make request. This report is called the *Lilly Digest*. It has a background of more than 4000 retail drug-store profit and loss statements. The one just off the press represents a detailed study of the operations of 605 drug stores and 366 prescription departments in those 605 drug stores for the year of 1940.

The neatly bound and printed *Lilly Digest* contains a wealth of factual figures and data. The trend of drug-store profits is shown since this Lilly Service started in 1932. Studies and tables prove the profitability of the professional department, monthly fluctuations in prescriptions filled by geographic sections, and by size of city, and prices received in stores of varying volume. There are tables on store expenses according to population of the town or city and also by volume of sales. For the first time a set of goal figures—something to shoot at—representing the costs and expenses achieved by stores with above average profits appears in the *Lilly Digest*. Nearly everyone recalls the familiar question "How am I doing?" Any druggist has the opportunity of measuring his performance with an accurate yardstick by spending an hour with this latest *Lilly Digest*, which is free for the asking. Address Eli Lilly and Company, Box 618, Indianapolis, Indiana.

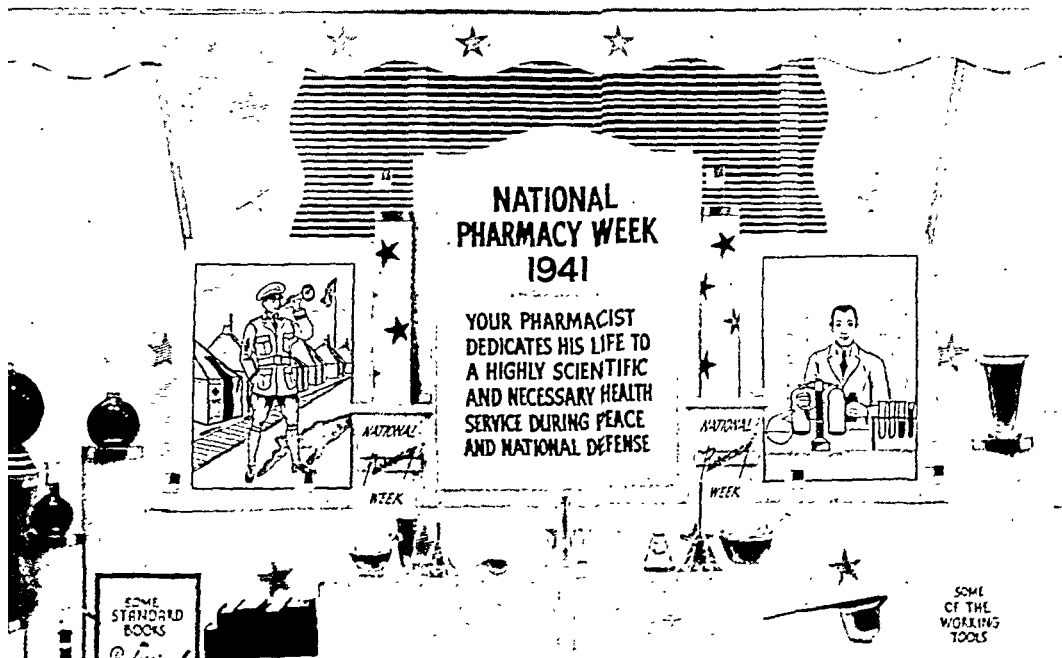


Here are the two new Pharmacy Week window displays which will be available free of charge this year from wholesale druggists through the coöperation of the National Wholesale Druggists' Association. The material is lithographed on sheets of thin paper which can be mounted on cardboard.

In setting up the display, pharmacists may follow the suggested set-ups shown or revise them to include original ideas.

As in past years there will be a beautiful trophy and ten honorable mention awards, as well as state and sectional prizes, for the best professional window displays during the week of October 19 to 25.

Request your free copy of the new display material from your wholesale druggist without delay as his supply may be limited. If he has not ordered a supply of displays from the National Wholesale Druggists' Association, urge him to do so.



CHAIRMAN O'BRIEN ANNOUNCES NATIONAL PHARMACY WEEK PLANS

**SEVENTEENTH OBSERVANCE,
TO BE HELD OCTOBER 19
TO 25, HAS NEW FEATURES**

TWO new window display backgrounds, in a patriotic motif, will be available to pharmacists for use in their 1941 Pharmacy Week window displays, according to John E. O'Brien, Chairman of the National Pharmacy Week Committee. The new displays, shown on the opposite page, may be obtained free of charge from wholesale druggists through the cooperation of the National Wholesale Druggists' Association.

Plans announced by Chairman O'Brien for the 1941 observance of Pharmacy Week are even more extensive than the plans of past years. The presidents of state, city, county and district pharmaceutical associations are asked to appoint five special committees to take charge of windows, radio, banquets, speakers and advertising and the following suggested schedule of events for the week will be placed in their hands:

SUNDAY, OCTOBER 19

Each city and county pharmaceutical association is asked to run an advertisement in its local newspaper announcing the opening of National Pharmacy Week and outlining the program for its particular city. A suggested advertisement for this purpose is shown with this article.

National Pharmacy Week will be officially opened with a chain broadcast over the Mutual Broadcasting System. The speaker and time will be announced at a later date. Local Pharmacy Week Committees are asked to arrange additional broadcasts and the National Committee will supply suggested scripts on request.

MONDAY, OCTOBER 20

Local pharmaceutical associations are asked to arrange luncheons with their Chambers of Commerce. Suggested talks are available for pharmacists to use in speaking before such luncheons.

The National Committee suggests that city and county associations hold banquets on Monday evening. Such banquets should be addressed by a prominent speaker who will bring pharmacists up to date with developments in the field of pharmacy.

TUESDAY, OCTOBER 21

The National Committee is arranging a second radio network broadcast; time and speaker to be announced at a later date. Local committees are asked to arrange for local programs.

WEDNESDAY, OCTOBER 22

Pharmacists in every city and town in the country will appear before their noonday service clubs.

A third radio network program is planned; time and speakers to be announced.

THURSDAY, OCTOBER 23

Pharmacists are asked to speak before senior high-school students and before noonday service clubs.

FRIDAY, OCTOBER 24

Pharmacists are asked to speak before local Parent-Teachers Associations.

The local committees are asked to schedule evening radio programs.

SATURDAY, OCTOBER 25

The 1941 observance of National Pharmacy Week will be brought to a close with a final radio network program.

Chairman O'Brien has outlined the following duties for the five special committees to be appointed by the presidents of state, city and county associations:

WINDOW COMMITTEE

Coöperate with your college of pharmacy, your wholesaler and your drug manufacturer, and install an outstanding historical and professional window at a prominent corner in your city, as, for instance, in a window of one of your large

department stores. These stores will gladly donate the use of the window for one week.

Contact your wholesale druggist early and urge him to secure the backgrounds for professional windows from the National Wholesale Druggists' Association, 330 W. 42nd St., New York City. These backgrounds are on thin paper and can be mounted on cards, and they make a very interesting and informative base for a professional window.

Pictures of model windows are carried in most pharmaceutical journals, and by referring to these pictures a good window is easily and inexpensively installed.

A few pieces of simple apparatus can be purchased from the wholesaler for a few dollars and when filled with red-colored water, they attract the attention of the public. If the public stops, looks and reads the cards, a part of our message will be delivered.

Call every pharmacist in the community by telephone. Urge that he install a professional window during Pharmacy Week. Impress upon him how easily and inexpensively it can be done. Inform him that his wholesale druggist will furnish him, free of charge, a lithographed copy of the display material which, when mounted on cards, makes a very suitable background for a window.

Tell him to consult pictures of model windows appearing in drug journals for easy methods to prepare a suitable professional window.

Tell him that these backgrounds, together with a few simple pieces of pharmaceutical apparatus filled with red-colored water, make a nice window.

Tell him that the local committee will run an ad in the local paper calling the attention of the public to the professional windows in drug stores during "Pharmacy Week" and that if he does not have a window his customers may wonder why!

SPEAKER'S COMMITTEE

Arrange for six or more men to act as speakers.

The National Pharmacy Week Committee has several different papers which are interesting and instructive and which will be sent free upon request.

Contact the various "Noonday Luncheon Clubs" and ask permission to furnish a speaker at their meetings during National Pharmacy

Week, October 19 to 25. Bear in mind that these clubs arrange their fall programs during August or early September. Assure them that your speaker will have an interesting and instructive message. Assure them that over three hundred such talks were given during "National Pharmacy Week of 1940" and that in every instance, the clubs were enthusiastic in their praise of the talks.

Arrange for a speaker for the luncheon at the Chamber of Commerce on Monday, October 20th, at noon.

Arrange for a speaker for the banquet at 6 P.M., on Monday evening, October 20th.

Contact the superintendents of high schools and arrange for speakers to address the senior classes.

Contact the various P. T. A. organizations and arrange for speakers to appear at their meetings.

Talks by pharmacists offer the best method of accomplishing the purposes for which National Pharmacy Week was created. Pharmacy has a worth-while message and, by acquainting the public with Pharmacy, the profession will receive the respect it rightfully deserves.

BANQUET COMMITTEE

Arrange luncheon for noon at Chamber of Commerce on Monday, October 20, 1941.

Write invitations to all druggists in your community to attend. Tell them to invite a few friends and customers. Tell them that many of their friends will be there. Then call every pharmacist by phone and urge his presence.

Invite a speaker to talk on a subject such as "National Pharmacy Week" or the "Progress of Pharmacy during the Past 75 Years."

Arrange for a banquet in the evening at one of the leading hotels. Issue a written invitation to every pharmacist in the community. Ask each pharmacist to invite at least one or two customers or friends.

Call every pharmacist and issue a personal invitation to attend. Again urge him to bring some friends.

Arrange for a speaker to talk on a subject such as "Newer Drugs in Pharmacy."

The National Committee is mindful that only a few hundred people will be reached through this noonday luncheon at the Chamber of Commerce and banquet in the evening, but we believe that National Pharmacy Week is a long-time

*There is
A Scientist
In Your Community*

How well do you know him?

He works long hours, day and night, alongside of your physician, your dentist, and all others concerned with the protection of community health. Probably you just know him as the corner druggist—but he is a trained scientist, too.



A REGISTERED PHARMACIST must be a high school graduate; graduate from a four-year college course in Pharmacy; have at least two years' practical experience; pass a rigid State Board Examination; renew his registration each year.

NATIONAL PHARMACY WEEK

will be observed

October 19 to 25

**Be Sure To
TUNE IN
ON
Station PHG
Wednesday Evening
October 22
At 8:00 P. M.**

Listen to the dramatization of "Four Thousand Years of Pharmacy," sponsored by the Home City Retail Druggists' Association

See the interesting, instructive Professional Displays in the windows at your Drug Store.

A Special Exhibit of (Drugs of the Bible) has been arranged in the windows of the First National Bank, A Street at 10th.

There will be a special Pharmacy Week Program, 2 p. m., Tuesday afternoon, October 21, at the High School Auditorium, sponsored by the Pharmacists of your city.

Suggested newspaper advertisement which the National Pharmacy Week Committee proposes that local committees insert in their community newspapers on Sunday, October 19. The copy can be adapted to the special features of any individual program

program and that progress each year will in time accomplish the purpose for which the week was created.

The National Committee believes that the assembling of the local pharmacists during the week of observation will inspire all to coöperate more fully in the movement and do their part in placing pharmacy on the plane it rightfully deserves.

Our job is to make the public mindful of the professional importance of our profession. In this undertaking we need the support and coöperation of all.

RADIO COMMITTEE

Contact the radio stations in your city. Assure each radio station of the coöperation of the pharmacists for free time on its schedule.

Try to have an opening radio program either Sunday afternoon or Sunday night, October 19th

Ask for a fifteen-minute period each evening and coöperate with the Speaker's Committee for men who will use that time.

Assure the radio management that our program is wholly educational. Coöperate with the Advertising Committee in your city to run a small ad in the radio section of the local paper each day, announcing the time and station of your educational program.

Where the station has a "Man on the Street" program, ask that the Master of Ceremonies interview a pharmacist during National Pharmacy Week.

The National Pharmacy Week Committee has many papers suitable for "Fifteen Minute Talks" over the radio and also "Questions and Answers for the 'Man on the Street'" program.

You may also obtain script suitable for spot announcements between programs.

ADVERTISING COMMITTEE

On Sunday, October 19, 1941, run an advertisement in your local paper on "National Pharmacy Week." The ad should be about four columns wide and eight inches high. Shown with this article is a suggested advertisement which you may change in any manner you desire.

On days you have a radio program, run a one-column four-inch ad in the radio section, calling attention to the educational radio program you will have that night. Ask that the editor write an editorial on pharmacy.

We also suggest that your committee write a short editorial and mail it to what is generally called the "Public Pulse" department of the paper.

Remember our job is to acquaint the public with pharmacy and we must take advantage of every legitimate avenue.

CODE OF ETHICS

If your copy of the Code of Ethics of the AMERICAN PHARMACEUTICAL ASSOCIATION, included in the May issue of this Journal, was damaged in mailing, you may secure a new copy, without charge, by addressing a postcard request to our printers: Mack Printing Company, 20th and Northampton Sts., Easton, Pa.

The supply is limited and requests must be made immediately. Only those requests received within fifteen days of the mailing of this issue will be honored.

IN THE NEWS

Dr. Glenn L. Jenkins, professor and head of the department of pharmaceutical chemistry at the University of Minnesota, has been named as the new Dean of the Purdue University School of Pharmacy, effective with the opening of the regular academic year next fall. Dr. Jenkins will take over the duties that have been handled by Dr. Carl J. Klemme, as acting executive, since the death of the late Dean C. B. Jordan last April.

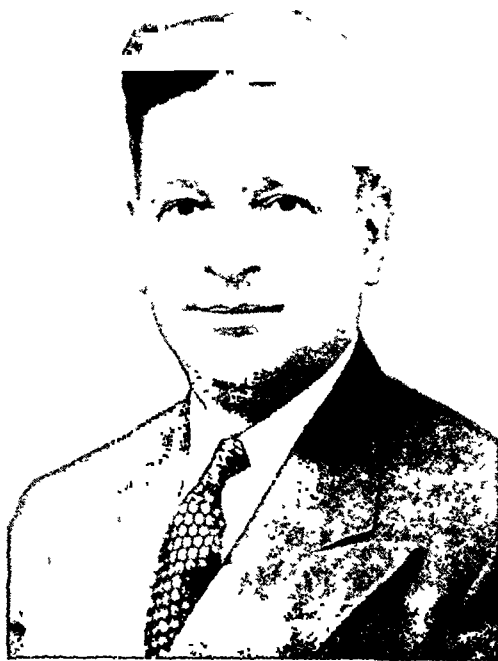
Dr. Jenkins has published approximately fifty papers in educational and scientific journals and is the co-author of a textbook, "Quantitative Pharmaceutical Chemistry," which is now in its third edition. Another book, "The Chemistry of Organic Medicinal Products," is now on the press. As a member of the Revision Committee of the "Pharmacopœia of the United States," he is chairman of the sub-committee on reagent chemicals, while as a member of the Revision Committee of the "National Formulary" he is chairman of the committee on chemicals.

A native of Sparta, Wis., Dr. Jenkins launched his pharmacy career as an apprentice in Madison, Wis. Later, he entered the University of Wisconsin where he earned the degrees of Ph.G. in 1921 and B.S. in 1922. Returning to Wisconsin as a Hollister research fellow, he received the M.S. degree in 1923 when he was appointed an assistant instructor at the institution. Continuing his graduate studies, he received the Ph.D. degree in 1926 with a major in pharmaceutical chemistry and a minor in pharmacology, which led to his appointment as instructor in pharmacy.

He was called to the University of Maryland as Professor and Head of the Department of Pharmaceutical Chemistry in 1927, resigning in 1936 to accept the same position at the University of Minnesota, where he has been since that time.

Dr. Jenkins is a member of Theta Chi, social fraternity; Kappa Psi, professional pharmacy; Rho Chi, pharmacy honorary, which he served as president from 1930 to 1934; Sigma Xi, honorary research, and Gamma Alpha. He is also an honorary member of Phi Delta Chi, professional pharmacy, and Phi Lambda Upsilon, professional chemical.

Dr. Jenkins was married in June of 1926 to Serena E. Forberg, of Hubbard Woods, Ill., a graduate of the University of Wisconsin and a



DR. GLENN L. JENKINS

member of the Chi Omega sorority. They have four children, Serena Elizabeth, 13, Thomas Nelson, 8; Glenn Llewellyn, Jr., 5, and Carol Ruth, 5 months.

Dr. Carl J. Klemme, professor of pharmaceutical chemistry at Purdue University who has been serving as acting executive of the School of Pharmacy since the death of the late C. B. Jordan, has resigned his position in order to accept an appointment as administrator of the Experimental Research Laboratories of Burroughs, Wellcome & Co., Inc., Tuckahoe, N. Y., one of the largest pharmaceutical manufacturing concerns in the world.

In his new position, Dr. Klemme will have charge of the laboratory administration as well as the planning and directing of the program of research at the New York laboratories of Burroughs, Wellcome & Co., which has a virtually world-wide organization. The concern maintains plants and laboratories in London, New York, Montreal, Cape Town, Bombay, Shanghai, and Buenos Aires.

OBITUARY

DR. EDWARD KREMERS

On July 9, 1941, Dr. Edward Kremers, Director Emeritus of the School of Pharmacy of the University of Wisconsin, died of a heart attack. He was 76 years of age.

Born at Milwaukee, Wisconsin, on February 23, 1865, as one of the sons of Gerhard and Elise Kremers, nee Kamper, Edward Kremers served his pharmaceutical apprenticeship with that excellent German pharmacist, Louis Lotz, in Milwaukee. This man, who had been a student with Liebig at Munich, imbued his apprentice with an idea which Dr. Kremers never abandoned and fought for all his life: the idea that pharmacy has to be a profession executed by scientifically educated people in order to really fulfil the tasks assigned to it within the service of public welfare.

In 1884 Dr. Kremers entered the Philadelphia College of Pharmacy, but for family reasons continued his study at the University of his home state, at Madison, Wisconsin. Here he earned his Ph.G. degree in 1886 and his B.S. in 1888. In the fall of 1888 he went abroad to Bonn and studied under Wallach and attended the lectures of Kekule, of benzene ring fame, on structural chemistry. These two branches of chemistry, *i. e.*, phytochemistry and structural chemistry, remained the two main fields of Dr. Kremers' scientific endeavor throughout his life and it was in them that he gained worldwide recognition. When Wallach accepted a call to Goettingen, Dr. Kremers was one of the twelve students who migrated with him to his new place of work. After two years of work with Wallach, in 1890, Dr. Kremers was awarded the Ph.D. degree. His dissertation dealt with "The Isomerisms within the Terpene Group" and laid the ground for many later investigations.

Returning to Madison, Dr. Kremers was Instructor in Pharmacy from 1890-1892, Professor of Pharmaceutical Chemistry and Director of the Course in Pharmacy at the University of Wisconsin from 1892-1935, succeeding Dr. Powers.

Being a pharmacist by choice and by destiny Dr. Kremers worked to give pharmacy a professional standing on the same educational level as the other academic callings and to give the pharmacist and

the service rendered by him the advantage of special knowledge as well as of a broad general horizon. In 1902, he introduced the first four-year course in pharmacy in America. He was the first to establish graduate work for students of pharmacy leading to the Ph.D. with pharmacy as a major. In 1913 he initiated the first "Pharmaceutical Experiment Station" in the United States to demonstrate the possibilities and usefulness of academic pharmaceutical research.

From 1896 to 1909 he edited, first with Frederick Hoffmann and from 1901 alone, the *Pharmaceutical Review*. In 1898 he created another journal, the *Pharmaceutical Archives*, restricted exclusively to the publication of scientific originals. This journal was discontinued in 1903 and revived in 1936. He was one of the authors of the "National Standard Dispensatory" and the comprehensive work of "The Volatile Oils," a product of the coöperation of Gildemeister-Hoffmann-Kremers has been published in two editions (1900 and 1913). The pharmaceutical-historical collections of Kremers have formed the main basis for the Kremers-Urdang "History of Pharmacy" published in 1940.

He served the United States Pharmacopœia Committee as Chairman of the Committee on Volatile Oils and related subjects from 1900 to 1910 and the AMERICAN PHARMACEUTICAL ASSOCIATION as Chairman of the Scientific Section and as Historian. He was elected Honorary President of THE AMERICAN PHARMACEUTICAL ASSOCIATION in 1933. He was President of the American Conference of Pharmaceutical Faculties in 1902, and of the Wisconsin Pharmaceutical Association in 1930. After his resignation as Director of the School of Pharmacy at Wisconsin he became a member of the Wisconsin State Board of Pharmacy and the National Association of Boards of Pharmacy made him a Honorary President for 1939-1940. He was furthermore an honorary member of the Société d'Histoire de la Pharmacie, of the Gesellschaft fuer Geschichte der Pharmazie (corresponding member) and of the Deutsche Pharmazeutische Gesellschaft. He was awarded the Ebert Prize twice, in 1887 and in 1900, and received the degree of Sc.D. *honoris causa* from the University of Michigan in 1913 and the Remington Honor Medal in 1930.

On July 6, 1892, Edward Kremers married Miss Laura Haase. Of their children three, two daughters and one son, are living.



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Baltimore Chicago City of Washington Michigan New York Northern New Jersey Northern Ohio North Pacific Northwestern Philadelphia Pittsburgh Western New York	M. J. Andrews Lawrence Templeton Kenneth L. Kelly Walter M. Chase Leonard W. Steiger R. A. Deno Joseph J. Opatrny Ed. Stipe E. B. Fischer Arthur Osol Edward P. Claus J. Raymond Bressler	R. S. Fuqua, 1432 Carswell St. E. E. Vicher, 1524 S. Lombard Ave., Berwyn L. G. Gramling, Geo. Wash. Univ. Bernard Bialk, 11655 Hamilton Ave., Detroit Frank P. Pokorny, 115 W. 68th St. C. L. Cox, 1 Lincoln Ave., Newark Douglas B. Pew, 3670 E. 163rd St., Cleveland F. A. Geue, 1220 S. W. Stark St., Portland, Ore. C. V. Netz, College of Pharmacy, Minneapolis R. N. Blythe, c/o Smith, Kline & French Co. F. S. McGinnis, 3601 Fifth Ave. George W. Fiero, 3502 Main St.	Third Tuesday Third Monday Third Tuesday
STUDENT BRANCHES			
Alabama Polytechnic Connecticut College of Pharmacy Ferris Institute George Washington University Loyola University Louisville College of Pharmacy Ohio State University College of Pharmacy Pittsburgh College of Pharmacy Purdue University School of Pharmacy Rhode Island College of Pharmacy and Allied Sciences St. John's University Southern College of Pharmacy State College of Washington State University of Iowa College of Pharmacy Temple University University of California University of Southern California University of Florida University of Mississippi	Charles R. Barron Charles Blumenthal Henning Engmark F. D. Cottrill Ronald L. Macke John J. Furlong William Roberts Harry Bonchosky George E. Osborn Lawrence J. Bartley Lester Rosenstein J. R. Eaves Theodore Hagen George T. Weirick Alton G. Grube H. K. Iwamoto Otto Lensing J. F. Cooley, Jr. Harry Lynch	Beth. M. Murphy, Box 188, Auburn Robert Sandals, 165 Eldridge St., Manchester, Conn. Morris Fockler, Ferris Institute G. O. Chilcoat Catherine E. Chadwick, Loyola School of Pharmacy H. L. Alexander, 3rd & Oak Sts., Louisville Margaret Timmons, 1952 Iuka Ave., Columbus George Kelly, 3366 Webster Ave. J. H. Houseworth, College of Pharmacy John Stadnick, Rhode Island College Sister M. Etheldreda, 95 Bushwick Ave. Annette Williams Haakon Bang, Box 124, Pullman Delpha L. Donner, Eastlawn, Iowa City Marie Steigerwalt, Andreas, Pa. Peggy Kreizinger, Univ. of California Mrs. A. Scott, 3607 S. Hoover St., Los Angeles R. H. Weaver, Jr., 1634 W. Univ. Ave., Gainesville Marguerite Holmes, University, Miss.	 First Thursday

Second Edition of Professional Pharmacy

Notwithstanding that the Second Edition of Professional Pharmacy contains 25 more pages than the First Edition, it has been possible to continue the same price per copy, namely, 25 cents. A discount of 10% on 10 or more copies is allowed; 15% on 100 or more; 20% for 250 or more; and 25% for 1000 or more.

Referring to a few of many sources of information: A prominent State Board of Pharmacy official pointed out that the Professional Pharmacy enables State Inspectors to compare the inventory of new drug stores with the basic list of prescription items on pages 65 to 82, inclusive.

Applicants for registration, who contemplate opening a pharmacy, may find lists of necessary items and the probable quantity required and approximate cost.

A table gives the form in which prescriptions are called for, supplying information relative to the needs of the prescription department and prevent overbuying and unnecessary purchases.

Throughout, the helpful purpose is evident to aid the druggist and pharmacist by presenting actual data from surveys, which Board Members, State Pharmaceutical Association Officials and Members of Faculties can bring to the attention of Registrants, Members of Associations and Students.

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*Practical
Pharmacy
Edition*

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E. F. Kelly

H. H. Schaefer

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THE A. M. A.-A. PH. A. CONFERENCE

FAR outshadowing in importance any other development at the 89th Annual Meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION, held in Detroit, Michigan, during the week of August 17-23, was the formal invitation of the American Medical Association to this Association to participate in a joint conference on mutual problems of the two professions. The possibilities of this conference, which will be held within the near future, are unlimited.

To appreciate fully the significance of this conference, one needs to know its background and the steps which led up to the issuance of the invitation. One of this Association's comparatively new committees is that of Long Range Program of Policy. The Committee itself is divided into several sub-committees, each of which is charged with the study of a particular problem, and one of the more important of the sub-committees directs its attention to Interprofessional Relations. A year ago the chairman of this sub-committee, Dean Robert C. Wilson of the University of Georgia School of Pharmacy, after studying various programs of professional relations which had been carried on both successfully and unsuccessfully by individual state pharmaceutical associations, decided to approach the subject frankly and earnestly. As the first step, he addressed an inquiry to the secretary of every state medical society in the country asking whether or not his association felt there was a place for an interprofessional relations program and, if so, would it take part in working one out. Thirty-eight out of forty-eight society secretaries replied to the letter,

and all but one not only answered "yes" but were enthusiastic over the possibilities of such a program.

When this matter was brought to the attention of the Executive Committee of the American Medical Association, that body issued an invitation to the A. PH. A. committee composed of Dean Wilson, Secretary E. F. Kelly, and the late Dean C. B. Jordan to meet with it last February. After a frank discussion of the objectives of such an interprofessional relations program and a consideration of how best it could be developed, the A. M. A. suggested a national conference to be held under the sponsorship of its Council on Pharmacy and Chemistry. The suggestion was placed before the Board of Trustees of the A. M. A. at the Cleveland meeting in June, and it directed the Council on Pharmacy and Chemistry to arrange the conference. Notice of the action appeared in the *Journal of the American Medical Association* a few weeks ago.

Pharmacy and Medicine have individual as well as a joint responsibility to the public and it is but proper that representatives of the two professions should meet from time to time to discuss this major subject. The time-worn subjects of counter-prescribing and doctor-dispensing are of minor significance in comparison to important matters which need attention.

During the past decade the profession of pharmacy has raised its educational requirement to the point where its practitioners to-day are capable of rendering more effective services to physicians, services which will enable doctors to render more effective

services to the public. In order that the services of the pharmacist may be fully utilized by the physician, it would be well to discuss such subjects as the following:

1. *The Possibilities of Reducing the Costs of Medicines to the Public.*—This does not mean a glorified U. S. P. and N. F. propaganda campaign with proprietary prescription specialties "under fire." It does mean, however, a discussion of the place of official medication and the place of proprietary medication in the treatment of disease. Let no one fear that pharmacists are going to urge physicians to go back to the days of treating diabetes with fluidextract of horse-tail or using hemlock as a sedative. Every fair-minded pharmacist knows that the vast majority of prescription specialties marketed by leading manufacturers under provisions of the Federal Food, Drug and Cosmetic Act to-day represent distinct contributions to the treatment of disease. Every fair-minded pharmaceutical manufacturer, on the other hand, knows that there are so-called prescription specialties on the market which are mere mixtures of common drugs which any pharmacist can prepare in his prescription room. The task is to utilize to the fullest extent the facilities of the manufacturer in the production of compounds which only he can make available and to utilize to the fullest extent the facilities of the pharmacist in the preparation of those pharmaceuticals which are within his ability to compound.

2. *The Pharmacist and the Physician under Food, Drug and Cosmetic Laws.*—The new federal and state laws have placed added responsibility on both the physician and the pharmacist. Regulations issued under the Act emphasize the importance of the pharmacist to the physician in supplying information concerning the composition, properties and uses of prescription pharmaceuticals. They also make it impossible for the pharmacist to dispense many drugs as he has in the past on the verbal order of the physician to the patient. If physicians will understand the problems facing the

pharmacist under these new laws, they can do much to prevent unnecessary irritation to the patient, to prevent unwarranted hardship on both physician and pharmacist, and to provide greater service to the public.

3. *The Instruction a Physician Should Receive to Enable Him to Utilize More Effectively the Professional Services Which the Pharmacist Is Qualified to Give.*—Some believe that this problem is the root of many of our current difficulties. Do medical students need more instruction in prescription writing; and, if so, can pharmacy help in any way?

4. *The Pharmacy as a Headquarters for Public Health Information.*—Public health authorities are more and more appreciating the influence of the pharmacist in his community. It has been said that more cases of disease come to him first than go to the physician first. Obviously, therefore, the pharmacist has a real responsibility to advise his customers wisely and properly. Can the influence of the pharmacist be guided more effectively in the interest of public health? Should he recommend specific physicians? What type of literature should he have available? The possibilities of utilizing the pharmacy as a headquarters for the dissemination of public health information offer great promise under wise guidance.

These are but a few of the problems which may well be discussed at the A. M. A.—A. P. H. A. Conference. The Committee will welcome suggestions from pharmacists as to additional subjects which should be covered.

The American Medical Association has stated that it is "looking forward to this conference with enthusiasm." So is the AMERICAN PHARMACEUTICAL ASSOCIATION. This meeting promises to be the most important ever held in the history of these two professions.

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EIGHTY-NINTH ANNUAL MEETING HEARS A. M. A. INVITE A. PH. A. TO TAKE

PLANS FOR DISCUSSION OF MUTUAL PROBLEMS BY PHYSICIANS AND PHARMACISTS AT NATIONAL CONFERENCE, FIRST TO BE HELD IN THE HISTORY OF EITHER PROFESSION, HIGHLIGHTS PROGRAM OF BIGGEST CONVENTION OF AMERICAN PHARMACEUTICAL ASSOCIATION EVER HELD

PHARMACISTS of the United States, long eager for an opportunity to sit down and discuss their mutual problems with the physicians of the country, saw their dreams come true at the 89th Annual Meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION, held in Detroit, August 17th to 23rd, when Dr. Theodore G. Klumpp, newly appointed Secretary of the Council on Pharmacy and Chemistry of the American Medical Association, addressed the opening session of the meeting and presented a formal invitation to the A. PH. A. to join the A. M. A. in just such a conference.

Pharmaceutical leaders, present at the convention, saw in the A. M. A. invitation the promise of a new day in medical-pharmaceutical relations, a day in which an understanding of each other's problems would take the place of the differences which have arisen in past years between these two professions. From such an understanding can only come a greater utilization of each other's professional services to the great advantage of the American public who need the combined skill of the physician and pharmacist in the effective prevention and treatment of their ills.

"It is altogether fitting that representatives of our professions should meet from time to time and discuss our mutual problems," said Dr. Klumpp in extending the invitation. "To fail to do this is to fail to take the first step toward a better understanding and a meeting of minds. After all, we cannot appreciate one another's problems until we find out from first-hand information what they actually are," he said.

"We all recognize that there are problems and it is hoped that from this exchange of ideas there may arise solutions to some of them. We shall be very happy to receive suggestions that will lead to a more worth-while meeting. We are

looking forward to this conference with enthusiasm and the hope that it will further cement the cordial relationships that have always existed between two professions altogether devoted to the good of mankind," said Dr. Klumpp.

Dr. Klumpp revealed that several months ago representatives of the AMERICAN PHARMACEUTICAL ASSOCIATION discussed such a conference with the Board of Trustees of the American Medical Association. The Board recommended that the Council on Pharmacy and Chemistry sponsor such a conference and the Council adopted the recommendation unanimously. The national conference, unique in the annals of both professions, will be held within the near future and will consider mutual problems dealing with the prescribing and dispensing of drugs and medicines in an attempt to work out a common understanding and program of mutual helpfulness.

Sounding the keynote of greater understanding between medicine and pharmacy, Dr. Klumpp said, "We are soldiers in the war against disease and suffering; a war in which there is no peace. We are members of the same artillery unit. Your job is to prepare the shells, bring them up, attach the percussion caps, and load the cannon. Ours is to sight the gun and pull the firing cord."

RECORD ATTENDANCE

A record-breaking attendance of 1225 persons took part in the annual meeting as the AMERICAN PHARMACEUTICAL ASSOCIATION completed its eighty-ninth year of service to the pharmacists of the country and began its ninetieth. From 44 states and the District of Columbia, from Canada, Cuba, and Argentina came pharmacists and their families to take part in one of the most significant meetings in the long history of this Association.

PART IN UNIQUE JOINT CONFERENCE

Meeting with the Association were the American Association of Colleges of Pharmacy, the National Association of Boards of Pharmacy, the National Conference on Pharmaceutical Research, the American College of Apothecaries, the Conference of Pharmaceutical Law Enforcement Officials, and the Conference of Pharmaceutical Association Secretaries. The Plant Science Sem-

inar met in nearby Cranbrook during the preceding week.

U. S. P.-N. F. RELATIONS

One of pharmacy's most provocative current problems, the U. S. P.-N. F. controversy, received a full airing at the convention. President Charles Hall Evans, of Warrenton, Ga., in his



President Charles H. Evans, of Warrenton, Ga., welcomes President-Elect B. V. Christensen, of Columbus, Ohio, to the 89th Annual Meeting of the American Pharmaceutical Association.

formal address before the first general session, explained the situation as follows:

"When the National Formulary was established by the AMERICAN PHARMACEUTICAL ASSOCIATION in 1888 it was merely a book of unofficial formulas; as a matter of fact it was named 'The National Formulary of Unofficial Preparations.' As such, it naturally was secondary to the United States Pharmacopœia and each edition, including the 6th, carried a statement in its preface to the effect that should the U. S. P. approve for admission and establish standards for items already included in the National Formulary, the Pharmacopœia standards shall supersede those of the National Formulary.

"The wisdom of this policy in the days when the U. S. P. was the only recognized book of standards is easily appreciated, but to-day such a policy is not only unnecessary but, from many points of view, undesirable.

"The National Formulary to-day enjoys equal recognition with the U. S. P. under the Federal Food, Drug and Cosmetic Act and the standards contained in one book are just as official as those in the other. It is no longer necessary to transfer an item from the National Formulary to the United States Pharmacopœia in order to make it official and thus the old policy of supersedence now serves no useful purpose.

"From the practicing pharmacist's viewpoint it creates undesirable confusion to have monographs of drugs shifted from one book to the other and back again.

"The National Formulary has a committee of ten capable men, experts in their field, and each has a competent sub-committee. It has excellent laboratory facilities and a capable full-time staff of technicians provided by the AMERICAN PHARMACEUTICAL ASSOCIATION in its headquarters, the AMERICAN INSTITUTE OF PHARMACY, in Washington. Actually, its full-time Chairman of Revision, its full-time laboratory staff, its laboratory facilities, its location in Washington where collaborative work can be carried on with governmental laboratories, and its comparatively small committee which gives it great flexibility and permits it to take prompt action, give the National Formulary many advantages as a book of standards. Nothing should be permitted to interfere with the efficient performance of its duties to the profession and the public. However, if the N. F. is to engage in research projects and have the U. S. P. decide to take over the products

involved when the research is half completed or if the N. F. is unable to proceed with its work because it doesn't know which products the U. S. P. may admit and which it may not, it cannot function efficiently.

"As the first step in relieving this situation the National Formulary has wisely rejected its outmoded policy of granting supersedence to the U. S. P. From now on, the U. S. P. has no more right to take items from the N. F. than the N. F. has to take items from the U. S. P.

"This new policy can produce but one of two results: (1) If the U. S. P. and N. F. do not work out a satisfactory basis of mutual understanding and agreement on which drugs shall be admitted to one and which to the other, there will be chaos and the present non-governmental standardization procedure will be discredited. (2) If the U. S. P. and N. F. do work out a mutually acceptable basis of coöperation, both committees will be able to function more efficiently and we shall be spared such needless controversies as we have had this past year.

"Your Association is doing its best to secure this latter objective. A Committee of the Coun-



Dr. Theodore G. Klumpp extends the invitation of the A. M. A. to the A. P. A. for a joint conference on medical-pharmaceutical problems.

cil appeared before the Board of Trustees of the U. S. P. last May and urged that prompt consideration be given to working out such a mutually acceptable basis of coöperation. These bodies, representing the U. S. P. and N. F., will meet early in 1942 to proceed in this direction.

"The new plan of continuous revision should keep both compendia abreast of the times and result in a more extensive use by practicing physicians and pharmacists. As I view it, with capable committees and sub-committees, a full-time Chairman of Revision, a staff of technicians and adequate laboratory facilities, the National Formulary is endeavoring to adjust its policies and services to present-day conditions while the U. S. P. still clings to tradition and precedent established one hundred years ago. With several members represented in an official capacity on both the U. S. P. and N. F., it seems the only answer for failure to bring about a unity of purpose which, after all, is the establishment of standards for drugs, is a spirit of jealousy and pettiness which has no place in constructive improvement, especially when the health of our people is involved."

N. F. REPORT

Presenting the viewpoint of the National Formulary, Dr. Justin L. Powers, Chairman of the Revision Committee, revealed that more than 40 items which were official in N. F. VI or were approved for admission to N. F. VII had been taken over by the U. S. P. This number exceeds the total number of N. F. items which had been taken by the U. S. P. during the entire period of the existence of the N. F.

"The question of admissions and deletions under the ten-year revision program was not a serious one," said Dr. Powers. "However, under the present plan of continuous revision which calls for the publication of supplements and the issuance of more frequently revised editions of both the U. S. P. and N. F., considerable confusion and even a lack of agreement are certain to result unless some discretion is used by both revision committees," he said.

Dr. Powers expressed the conviction that neither the U. S. P. nor the N. F. should be developed in a manner which would be detrimental to the other and he emphasized the fact that the desire of the N. F. was to make transfers of items from one compendium to the other subject to

NOMINEES FOR 1942-1943

The following members of the ASSOCIATION were nominated by the convention. The nominations will be submitted for election by mail ballot this fall.

President

Roy Cook, Charleston, W. Va.
John O'Brien, Omaha, Nebr.
L. D. Bracken, Seattle, Wash.

First Vice-President

Charles Bohrer, West Plains, Mo.
Donald Clarke, New York City
S. L. Dretzka, Milwaukee, Wis.

Second Vice-President

C. O. Lee, Lafayette, Ind.
A. L. Malmo, Duluth, Minn.
Curt P. Wimmer, New York City

Members of the Council (full term)

George D. Beal, Pittsburgh, Pa.
Charles H. Evans, Warrenton, Ga.*
R. P. Fischelis, Trenton, N. J.
M. N. Ford, Columbus, Ohio
Ivor Griffith, Philadelphia, Pa.
R. A. Kuever, Iowa City, Iowa
Ernest Little, Newark, N. J.
H. C. Muldoon, Pittsburgh, Pa.
A. L. I. Winne, Richmond, Va.

Member of the Council to fill the unexpired term of C. B. Jordan, deceased

B. A. Bialk, Detroit, Mich.
Glenn L. Jenkins, Lafayette, Ind.
R. C. Wilson, Athens, Ga.

* J. Lester Hayman was nominated for the Council but he withdrew. The Council nominated Charles H. Evans, retiring president, in his place.

mutual agreement between the two revision committees rather than by unilateral action on the part of the U. S. P. He described the efforts of the National Formulary to keep abreast of the times, discussed the work being carried on in the Association's laboratories in Washington, and said, "So long as the U. S. P. continues to adopt National Formulary monographs at any time, and without first discussing such adoptions with the Revision Committee of the National Formulary, just so long will a progressive program be impossible."

Dr. Powers reported that one meeting had been held between the Board of Trustees of the U. S. P. and a special committee appointed by the Council of the A. Ph. A., and that another meeting will be held early next year with the object of working out a mutually acceptable program covering future revisions.

U. S. P. REPORT

Dr. E. Fullerton Cook, Chairman of the U. S. P. Revision Committee, reviewed the principles under which the U. S. P. and N. F. were established and stressed the right of physicians on the U. S. P. Sub-Committee on Scope to select such drugs as they wish for inclusion in the U. S. P. without restriction. He stated that the U. S. P. Board of Trustees, to whom the Council of the A. Ph. A. sent the committee, has no authority over the scope of the U. S. P. and he suggested that after the new U. S. P. and N. F. are published the divisions of the two committees responsible for the scope of the books might meet to discuss the subject as an aid to complete understanding. "Of course, it would have to be understood that scope decisions only apply to current revisions and that the first duty of the medical group in the U. S. P. Committee in each major revision must be to select those items for the U. S. P. which measure up to the Pharmacopœial standard of medical importance in that particular year," Dr. Cook explained. "Decisions on scope must be finally a matter of judgment based upon the knowledge and experience of each qualified person on the U. S. P. Committee of Revisions."

PRESIDENT'S ADDRESS

President Evans delivered a masterful address on current problems of the profession. He stressed the responsibilities which the profession must assume during the period of emergency, and he urged pharmacists to take a greater part in Association work.

"The factors which contribute to the successful practice of pharmacy fall into two classes," said Mr. Evans, "(1) those things which individual pharmacists must do for themselves, and (2) those things which they cannot do alone but which they can do in association with other pharmacists. The opportunity to achieve success through one's own abilities is a priceless heritage of the democratic system, but the pharmacist

needs to join with other pharmacists through such associations as ours to achieve many objectives which are unobtainable through individual action. I believe that the outstanding pharmacists of the country realize this. To me, it is no coincidence that in this country there are roughly 32,000 drug stores doing \$10,000 or more in sales a year, about 32,000 drug stores rated at \$1000 or better, and approximately 32,000 pharmacists who are members of their state pharmaceutical associations."

President Evans traced the development of higher standards of pharmaceutical education and urged that efforts to lower these standards because of the present shortage of pharmacists be resisted. He asked greater opportunities for pharmacy students and lauded "refresher" courses for practicing pharmacists.

Stressing the need for a closer coördination of the work of all pharmaceutical associations, Mr. Evans recommended that all organizations in the field be invited to send representatives to a meeting to be held in Washington to discuss centralization of such activities as the organization of statistics, collection of information, analysis of laws, tabulation of facts, sponsorship of exhibits and the maintenance of a publicity bureau for the profession as a whole. The convention approved this recommendation by resolution and it is hoped that from such a meeting a plan may be devised which will avoid the overlapping of services being rendered by associations and will provide a central clearing house for statistics and information needed by state and national groups for various purposes.

FOOD AND DRUG LAW

President Evans urged the Association to direct its efforts toward clarification of the Federal Food and Drug Act. He asked that the government cease issuing citations for alleged violations of the law until rules and regulations are provided for the guidance of pharmacists.

Citing the many new, potent drugs which have been placed on the market during the past year, Mr. Evans stated that "it is no longer safe for even ordinary household remedies to be sold in general stores as the inferior quality and the dangerous composition of some of these preparations and the lack of proper state and federal laws to regulate the use and sale of these preparations make it imperative that to safeguard adequately the health of our people all drugs should

be sold by registered pharmacists in duly licensed stores."

He urged the Association to continue its efforts toward legislation which would place the sale of drugs and medicines in pharmacies where a qualified pharmacist is in charge at all times, as is provided for in the proposed uniform Pharmacy Act recently made available by the Committee on the Modernization of Pharmacy Laws. "The future health and welfare demands that not only dangerous and habit-forming drugs and medicines but that all drugs and medicines be distributed through safe and reliable channels," he said.

"In the past some selfish manufacturers have opposed this legislation. Certainly in the face of

the present world conditions we have enough farsighted manufacturers who would champion our cause in the interest of the health of our civilian as well as our military population.

"It must be borne in mind, however, that the restriction of sales of drugs and medicines to pharmacists can be justified only on the basis of providing greater protection to the public. Today, with the Food, Drug and Cosmetic Act requiring a statement of ingredients on the label of packaged medicines, the pharmacist is in position to give the public such protection and the pharmacist must be willing to assume greater responsibility in the sale of such products," he warned.

HONORARY PRESIDENT

Josiah Comegys Peacock, elected Honorary President of the AMERICAN PHARMACEUTICAL ASSOCIATION at its 1941 convention, was born at Millington, Md., August 24, 1869. He attended the public school of his home town, and there entered the drug business as apprentice in 1885. In 1888 he matriculated at the Philadelphia College of Pharmacy; and was graduated in pharmacy in 1891, and in chemistry in 1892.

In 1892 he entered the employ of Parke, Davis & Co., but soon returned to his Alma Mater as instructor in the chemical laboratory, where during the next few years he served as instructor and was associated with Professor Henry Trimble in a study of "The Tannins" and in developing special laboratory courses in chemistry. After the death of Professor Trimble in 1898, he directed the chemical laboratory and special courses in chemistry.

He reentered the retail drug business as a proprietor in 1899; he continued in the same until 1918, when he sold his business. In 1922 Mr. Peacock joined the H. K. Mulford Co., and from 1923 until he gave up active business in 1929, he was in charge of their detail staff.

In 1900, he married Bertha L. DeGraffe, a graduate in pharmacy of P. C. P., class of 1896, and of the special chemistry course in 1897. Together, they have contributed a number of papers dealing with plant analyses, plant principles (especially the tannins) and with problems in practical dispensing.

Mr. Peacock joined the Pennsylvania Pharmaceutical Association in 1906; was first vice-president thereof in 1914-1915; became a life-member in 1918; and was elected president 1921-1922. He was chairman of the Section on Practical Pharmacy and Dispensing in the AMERICAN PHARMACEUTICAL ASSOCIATION in 1918; member of the board of trustees of the P. C. P. & S. from 1917 to 1920, and from 1921 to 1929; member of the National Pharmaceu-

tical Service Association 1917 to 1920, serving as treasurer, chairman of the centennial committee on College Membership of the P. C. P. 1920-1921.

The honorary degree of master in pharmacy, Ph M., was conferred upon him by the Philadelphia College of Pharmacy and Science in 1921. He was elected honorary president of the Alumni Association of the Philadelphia College of Pharmacy and Science, 1939-1940.



JOSIAH COMEGYS PEACOCK

ELECTED OFFICERS

The House of Delegates elected the following officers for the ensuing year:

Honorary President, J. C. Peacock, of Philadelphia

Secretary, E. F. Kelly, Washington, D. C.

Treasurer, Hugo H. Schaefer, New York City

Chairman of the House of Delegates, H. H. Gregg, Minneapolis, Minn.

Vice-Chairman of the House of Delegates, C. Leonard O'Connell, Pittsburgh, Pa.

President Evans commended the Practical Edition of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION as meeting the demands of the retail pharmacist for a practical journal of an informative type which "bids fair to become the most welcome periodical in the library of the busy practicing pharmacist." He asked the Association to employ an assistant to Secretary E. F. Kelly; commended the Committee on Personnel Problems, the chairman of the N. F. Committee, the work of the joint committee of the A. Ph. A. and the American Social Hygiene Association, the Committees on William Procter Memorial and Hugh Mercer Apothecary Shop, the Membership Committee and the Committee on Local and Student Branches.

RECOMMENDATIONS APPROVED

President Evans made the following twelve recommendations, all of which were approved by the convention by resolution:

1. That the Association employ an assistant secretary.

2. That the Association commend Chairman Powers and his co-workers for their far-sighted vision in shaping the policies of the National Formulary in keeping with present-day needs in pharmacy and urge that all efforts possible be made in a spirit of cooperation and mutual helpfulness between the U. S. P. and N. F., toward an early issuance of these compendia, thus making the five-year program of issuance effective.

3. That the address of the president-elect outlining his program for the ensuing year be acted on at the closing session of the Council at each convention, and that those plans and objectives favorably

endorsed be immediately put into operation without waiting another year or for an indefinite period of action.

4. That the president-elect be extended the privilege of attending all Council meetings held after his election and prior to his installation into office in order that he may be informed as to the working of the Association.

5. That the Association endorse the work of the Committee on Interprofessional Relations and urge that it continue to direct its efforts toward a close relationship with medicine in promoting this program of mutual understanding with the American Medical Association and through state medical and pharmaceutical associations.

6. That the Association continue to direct its efforts toward the passage of national and state legislation which would restrict the sale of drugs and medicines to duly licensed pharmacies.

7. That the Association invite representatives of all national pharmaceutical associations to meet at the AMERICAN INSTITUTE OF PHARMACY to participate in an effort to coordinate all pharmacy activities so as to prevent an overlapping of services and to further advance pharmacy as a profession.

8. That the Association endorse the program of the Joint Committee of the American Social Hygiene Association and the A. Ph. A. and urge all pharmacists to support the committee in its efforts to stamp out venereal disease.

9. That the Association continue its efforts toward the improvement of pharmaceutical service in the various divisions of the government and full recognition of pharmacy as a profession, and a separate pharmacy corps in the Army and Navy.

10. That the Association cooperate with the Committee on Personnel Problems in an effort to bring about shorter hours and better working conditions in pharmacy.

11. That the Association endorse the work of the editor of the Practical Journal and continue to distribute this publication during the coming year to each dues-paid member of every state association as a service of the A. Ph. A.

12. That a full-time employee of the Association be named editor of the Scientific Journal with headquarters in the AMERICAN INSTITUTE OF PHARMACY

LEGISLATIVE DEVELOPMENTS

"Legislation will never cure all the ills of pharmacy, but it is obvious that with increasing governmental interest in public health, in legislative business restrictions, and in higher and new forms of taxes, increasingly greater efforts must be made by our profession to protect and develop its heritage by legislative means," Dr. Hugo H.

Schaefer, Chairman of the House of Delegates, told the convention in his formal address. Reviewing recently enacted legislation, Dr. Schaefer cited the following in particular:

A new New Hampshire law restricts the sale of many prescription pharmaceuticals to pharmacists by coupling the New and Non-Official Remedies with the U. S. P. and N. F. in the definition of standard compendia and stating that mixtures containing any of the drugs listed in these three books may be sold only by a pharmacist.

A new Maryland law provides that no sale of drugs at public auction may be made until the Department of Health is notified a certain number of days in advance and has had an opportunity to investigate the situation.

A New York City Board of Health regulation prohibits the distribution of samples of drugs and medicines to the public, provides that samples distributed to the profession be plainly marked, "Sample—Not to Be Sold," and forbids the sale of such samples by physicians or pharmacists.

Only one state enacted a new food, drug and cosmetic law to conform to the federal act during the year, a condition which Chairman Schaefer expressed the belief was due to the fact that many

of the regulations and interpretations by enforcement groups under the new law have gone far beyond what had been anticipated and, as a result, retail pharmacists' organizations to-day are less desirous of furthering efforts to enact the new law.

Some twelve states have amended their narcotic laws, on the request of the Federal Bureau of Narcotics, to remove all narcotics from the exempt list except products containing one grain or less of codeine to the ounce. Chairman Schaefer expressed the belief that the requested action was too stringent and he asked the exemption of Brown Mixture, Stoke's Expectorant, and Lead and Opium Wash. (During the meeting the Council appointed a committee to serve with a committee of the N. A. R. D. in an effort to secure the exemption of these three products.)

A new Utah law, designed to "freeze" the number of chain stores at their present level, provides a tax of \$1000 to \$5000 annually on chain stores established after July 1, 1941.

A new Idaho law provides a tax of \$2.00 on every retailer and wholesaler in the state and, in return, provides an appropriation of \$30,000 to defray the expenses of the Attorney General's office in its enforcement of its Unfair Sales Act.

Chairman Schaefer urged that study be given to legislation to make the dispensing of drugs by physicians subject to the same requirements as the dispensing of drugs by pharmacists, urged vigorous opposition to any efforts which might be made to lower educational standards, lauded "refresher" courses for practicing pharmacists, urged pharmacists to take part in the work of community defense councils and suggested that pharmacists who are offered contracts to supply medicines under health insurance policies obtain the advice of the Association's Committee on Social and Economic Welfare before accepting such. Chairman Schaefer called attention to the fact that the Committee on Modernization of Pharmacy Laws had completed its duties and he urged that it be superseded by a Committee on Legislative Policy which would disseminate information on legislative developments and act in an advisory capacity to state associations during legislative sessions.

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Dr. Hugo H. Schaefer, of Brooklyn, N. Y., Chairman of the House of Delegates and newly-elected Treasurer of the ASSOCIATION.

ELECTED OFFICERS

The House of Delegates elected the following officers for the ensuing year:

Honorary President, J. C. Peacock, of Philadelphia

Secretary, E. F. Kelly, Washington, D. C.

Treasurer, Hugo H. Schaefer, New York City

Chairman of the House of Delegates, H. H. Gregg, Minneapolis, Minn.

Vice-Chairman of the House of Delegates, C. Leonard O'Connell, Pittsburgh, Pa.

President Evans commended the Practical Edition of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION as meeting the demands of the retail pharmacist for a practical journal of an informative type which "bids fair to become the most welcome periodical in the library of the busy practicing pharmacist." He asked the Association to employ an assistant to Secretary E. F. Kelly; commended the Committee on Personnel Problems, the chairman of the N. F. Committee, the work of the joint committee of the A. Ph. A. and the American Social Hygiene Association, the Committees on William Procter Memorial and Hugh Mercer Apothecary Shop, the Membership Committee and the Committee on Local and Student Branches.

RECOMMENDATIONS APPROVED

President Evans made the following twelve recommendations, all of which were approved by the convention by resolution:

1. That the Association employ an assistant secretary.

2. That the Association commend Chairman Powers and his co-workers for their far-sighted vision in shaping the policies of the National Formulary in keeping with present-day needs in pharmacy and urge that all efforts possible be made in a spirit of coöperation and mutual helpfulness between the U. S. P. and N. F., toward an early issuance of these compendia, thus making the five-year program of issuance effective.

3. That the address of the president-elect outlining his program for the ensuing year be acted on at the closing session of the Council at each convention, and that those plans and objectives favorably

endorsed be immediately put into operation without waiting another year or for an indefinite period for action.

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Officers of the AMERICAN PHARMACEUTICAL ASSOCIATION: Left to right—Hugo H. Schaefer, treasurer; J. K. A. wood, first vice-president; B. V. Christensen, president; L. W. Rowe, second vice-president; E. F. Kelly, secretary.

number of new members in years, Secretary E. F. Kelly reported, adding that "indications are that a proportional if not larger number can be expected during the coming year." Membership in the Association now totals approximately 4500, of whom 225 are Life Members and 22 are Honorary Members.

FOOD AND DRUG PROBLEMS

Dr. Robert P. Fischelis, Chairman of the Committee on State Food and Drug Legislation, summarized the new regulations which have been issued under the federal act during the past year and answered questions concerning them.

In the discussion it was revealed that the citations issued a few months ago by the Federal Food and Drug Associations for over-the-counter sales of "dangerous drugs" were not confined to pharmacists in states which had enacted new food and drug laws conforming to the federal act but also were issued to pharmacists in states which had not changed their laws.

In connection with warning statements for the labels of drugs and medicines, Dr. Fischelis stated that the Association of Food and Drug Officials had made a study of the matter and had issued a report to the effect that the matter of adequate warnings is the responsibility of state officials and that the list of warning statements issued by the federal government should be considered as merely suggested statements.

CONTINUATION STUDY

Reporting on the progress made during the year in the development of continuation study courses for pharmacists under the George-Deen Act, S. L. Dretzka, of Milwaukee, chairman of a

special committee in charge of the work, stated that an advisory committee representing this Association, the N. A. R. D., the A. A. C. P., and the N. A. B. P. had drafted a topical outline for such courses and had secured funds from the U. S. Office of Education to hire a subject-matter specialist to develop the topical outline into a detailed teaching outline, and that E. J. Boberg, of Wisconsin, has been working on this project for the past few months. The course of study is divided into three sections: (1) Selling Pharmaceutical Service, (2) Store Management, Operation and Sales Direction, and (3) Merchandising by Departments. Mr. Boberg is working on the first of these three sections and the detailed teaching outline is expected to be completed by this fall.

Mr. Dretzka urged pharmacists to contact their state boards of vocational education and local boards of education through committees representing their state associations, boards of pharmacy and colleges of pharmacy in order that continuation courses financed in part under the George-Deen Act may be set up for pharmacists and their employees. He further suggested that consideration be given to issuing certificates to those who take such courses.

LONG RANGE PROGRAM

Dean W. F. Rudd, chairman of the Association's Committee on Long Range Program of Policy, urged that studies be made of the Association's objectives in the light of present-day conditions, of the pharmacist's place in public health work and of employment problems in the profession, of pharmacy's responsibilities under the food, drug and cosmetic law. It recommended

that the Association's contacts with state pharmaceutical associations be broadened, that membership in the Association be increased, that the Practical Edition of the Journal carry articles on the subject of establishing and maintaining professional contacts and that it publish a comprehensive section devoted to science news briefs, and urged that the secretary of the Association not hold any elective or appointive positions which would interfere with his full-time duties.

In a supplementary report, Dr. R. C. Wilson, of Athens, Ga., Chairman of the Professional Relations Sub-Committee of the Committee on Long Range Program of Policy, outlined the steps undertaken by his committee which led up to the A. M. A.'s invitation to the A. P. H. A. to hold a joint conference on medico-pharmaceutical relations. He described his correspondence with representatives of state medical associations which encouraged him in the possibilities of developing closer coöperation between the two professions and stimulated him to lay the matter before the Board of Trustees of the A. M. A. last spring. As a result of his committee's work the A. M. A. Board voted unanimously to instruct the Council on Pharmacy and Chemistry to invite the A. P. H. A. to hold the joint conference.

NEW STUDENT BRANCHES

Four new student branches of the Association have been organized during the last year, Dean Ernest Little, of Newark, N. J., Chairman of the Committee on Local and Student Branches, reported. The Association now has 33 local and student branches, 16 of which have been organized during the past four years.

NATIONAL PHARMACY WEEK

John E. O'Brien, of Omaha, Neb., Chairman of the National Pharmacy Week Committee, explained plans for the 1941 observance to be held during the week of October 19th to 25th. Through the coöperation of the National Wholesale Druggists' Association new window display material is being made available this year and Mr. O'Brien's committee has outlined a suggested program of radio programs, service club luncheon speeches and newspaper advertising for the guidance of local committees which should make this year's observance the most successful in the history of Pharmacy Week. It is hoped that more pharmacists than ever before will take part in the program.

CIVILIAN DEFENSE

Dr. George Baehr, M.D., Chief Medical Office, Office of Civilian Defense, Washington, D. C., was unable to be present at the convention but he sent a message outlining the plans of the national organization for the protection of citizens in the event of an emergency and he urged pharmacists to participate in the community programs which are being formulated. The text of Dr. Baehr's message appears in this issue.

N. F. COMMITTEE MEETS

The Committee on National Formulary, under the chairmanship of Dr. Justin L. Powers, held a two-day meeting prior to the A. P. H. A. meeting and made the following recommendations which were approved by the Council.

Publication of N. F. VII will proceed as promptly as possible but the date on which it will become official will be set to coincide with the date on which the U. S. P. XII becomes official.

To permit prompt publication of N. F. VII all page references to U. S. P. XII will be omitted.

The statement declaring the supersedence of N. F. standards by U. S. P. standards will be omitted from N. F. VII.

The historical section of N. F. VII will be revised to clarify the fact that the principles of revision contained in the report of the first Committee on National Formulary in 1888 applied merely to the first edition and have not been reaffirmed or adopted as principles by any subsequent committee.

The price of N. F. VII will not be increased from \$5.00. Supplements, when necessary, will be issued by publication in the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION and reprints will be made available, either free or at a nominal charge. If the issuance of a comprehensive supplement becomes necessary it will be printed separately and a suitable charge will be made for it.

The N. F. Committee is planning to make each revision after N. F. VII as self-contained as possible, including its own tests, monographs for reagents, test solutions, indicators, standard solutions, etc.

The N. F. Committee has offered to permit the U. S. P. to adopt the N. F. chapter on ampuls in order to bring the new U. S. P. chapter into complete agreement with the text which the

N. F. has used for the past ten years. The U. S. P. text is being prepared and will not be completed in time to permit its comparison with the N. F. text before the latter book reaches page proof form.

C. F. KETTERING SPEAKS

The manufacturing of pharmaceutical products is rapidly assuming a more and more important

position and will soon be a dominating industry in the United States, Dr. C. F. Kettering, President and General Manager of the Research Laboratories Division of the General Motors Corporation, told the convention. Dr. Kettering gave an interesting review of research being carried on by his company and by other organizations, and said, "I know of no organization in the world, no group of men in the world, who, as science develops, have got the opportunity to serve the

THE PHARMACIST IN CIVILIAN DEFENSE

"THE Office of Civilian Defense has prepared plans and is organizing the nation for the protection of its citizens in the event of any emergency. Although the services necessary for civilian protection are the same in all parts of the country, organization to render these services will differ from place to place. A Bulletin of the Office of Civilian Defense, entitled *Local Organization for Protection*, outlines the services that are needed and indicates a general pattern for the necessary organization, but it is the duty of each community to work out the details of this plan according to its own peculiarities.

"A bulletin is in press describing the basic plan of the Medical Division of the Office of Civilian Defense for an Emergency Medical Service in communities, and this bulletin will be released within a week through state and local defense councils. The pharmacists, through their contacts with physicians, hospitals, and the general public, are in a strategic position to help bring into operation this most essential program.

"The Emergency Medical Service will require trained first aid and nurses' aide volunteer assistants among its personnel. The U. S. Director of Civilian Defense has announced the plans of the American National Red Cross for the training within the next year of 100,000 Volunteer Nurses' Aides by the new intensive course prepared by the Red Cross and the Medical Division of the Office of Civilian Defense.

"A new first aid course for civilian defense workers has been prepared by the American National Red Cross and the Medical Division of the Office of Civilian Defense. A brief review course in first aid has also been prepared which consists largely of practice in emergency procedures such as application of splints and bandages, the control of hemorrhage, transportation of wounded, care of burns, and prevention and treatment of shock. These courses are to be taught by qualified Red Cross instructors, and it is urged that all persons in the community participate who can possibly do so. Both of these programs of instruction need the full support of influential citizens, including the pharmacist. He should encourage new students to enroll, by himself enrolling in the courses and reviewing and practicing his own first aid training, and he should proceed with advanced training and qualify as an instructor in order to spread this program.

"This training is all-important to the morale of the nation. An informed population cannot be stampeded. The Office of Civilian Defense is glad for the privilege of communicating directly with this Convention and is asking the support of your organization and every individual in it for:

- "1. The work of each state and local defense council and especially of the Emergency Medical Service.
- "2. The first aid training program.
- "3. The maintenance of morale by the development of an informed population for emergencies."

GEORGE BAEHR, M.D.
Chief Medical Officer,
Office of Civilian Defense,
Washington, D. C.

public and serve yourselves as this group represented in this room, because you are just getting into your hands the scientific tools of analysis, construction, combination, and synthesis to make the enormous number of compounds involved in the thing we call biological chemistry, of which you are representatives."

INCORRECT GRADUATES

T. W. Hoskins, of Louisville, Ky., Chairman of the Committee on Prescription Tolerances, reported on a study of 201 graduates used in filling prescriptions in Kentucky pharmacies, two of which were found to be oversize and seven undersize. He observed that all of the graduates found to be incorrect failed to bear any marks of identification, emphasizing the danger to the pharmacist of purchasing compounding equipment from unknown, unreliable sources.

1942 CONVENTION IN DENVER

Denver, Colorado, will be the host to the 1942 convention, and Providence, R. I., will entertain the 1943 meeting, according to the Committee on Place of Meeting, presented by R. E. Terry, of Chicago, and adopted by the Association. The committee suggested Los Angeles as the meeting place in 1944 and Cincinnati for 1945.

HOSPITAL PHARMACISTS MEET

Approximately 200 hospital pharmacists attended the meetings of the Hospital Pharmacy Sub-Section at which one of the most important subjects under discussion was the development of a national organization of hospital pharmacists to be affiliated with the AMERICAN PHARMACEUTICAL ASSOCIATION. Plans for this new organization will be extended during the coming year under the direction of H. A. K. Whitney, University Hospital, Ann Arbor, Mich.

DISTRIBUTIVE EDUCATION

Pharmacists should cooperate with state vocational education boards in the development of practical training programs for employees, advised B. Frank Kyker, of the Business Education Service of the U. S. Office of Education, before the Joint Session of the A. Ph. A., N. A. B. P., and A. A. C. P. Federal funds are allotted to each state for such distributive education and may be used to pay $\frac{2}{3}$ of the cost of the teacher's salary, the remaining $\frac{1}{3}$ to be paid from local or state funds.

Dr. Kyker explained that a committee representing the A. Ph. A., N. A. B. P., A. A. C. P., and N. A. R. D. had cooperated with the government in the development of subject-matter for such training program, to be published this fall. He discussed the work which had been carried on in Wisconsin and urged that such programs be extended on a national basis.

VENEREAL DISEASE CONTROL

Pharmacists, through their local, county, and state pharmaceutical associations, have responded enthusiastically to the requests for cooperation from the Joint Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION and American Social Hygiene Association, according to Dr. Robert P. Fischelis, chairman of the committee. "Many health officers have expressed amazement at the amount and degree of cooperation that is available to them through retail pharmacies, once they begin to contact the local associations and



B. Frank Kyker, of the Business Education Service of the U. S. Office of Education, who outlined the opportunities for pharmacists in vocational education courses under the George-Deen Act.

get their coöperation," he said. "The distribution of literature and the distribution of displays for windows goes on at a tremendous rate throughout the country at the present time because both health departments and pharmacists are interested."

Dr. Fischelis outlined the work of the committee and called attention to the leaflets which had been distributed to men in the Army and to men in the defense industries cautioning them on the dangers of venereal disease and advising them to obtain any necessary supplies from a pharmacy rather than from an unreliable outlet. To assist pharmacists in supplying proper information to those who seek medication for the self-treatment of venereal diseases, the committee has prepared a leaflet entitled, "A Tip From Your Pharmacist."

The appreciation of the United States Public Health Service to the pharmacists of the country for their part in the venereal disease control program was demonstrated in a letter, published elsewhere in this issue, which was addressed to

Dr. Fischelis by Dr. Warren F. Draper, Acting Surgeon General, and was read at the meeting.

COLLEGE OF APOTHECARIES

The American College of Apothecaries held its first annual meeting on August 18th and 19th. In resolutions reported to the A. Ph. A. the College expressed its appreciation to Dr. E. F. Kelly for his assistance during the formative period of the organization, recommended the appointment of a committee to determine the advisability of establishing a bureau to furnish information on U. S. P. and N. F. preparations, and asked that the College be represented at the proposed A. Ph. A.-A. M. A. conference.

SECRETARIES' ASSOCIATION

The Conference of Pharmaceutical Association Secretaries held its annual meeting and discussed various matters in which their associations can render valuable aid to their members.

PHARMACISTS OF MATERIAL AID IN VENEREAL DISEASE CONTROL

"THE deepening crisis of war emphasizes the life and death importance of mobilizing all of our resources—machines and men—at the earliest possible moment. Experience during the past several months in the administration of medical aspects of the Selective Service system has thrown considerable light on one of the most serious obstacles to mobilization of the nation's manpower.

"This obstacle is venereal disease. Examination of the first million men called for Selective Service has revealed 48,000 cases of syphilis and at least 15,000 cases of gonorrhea. These men have been rejected as unfit for service. They are back now in their communities, problems for civilian authorities. They form a crucial portion of the total national defense venereal disease problem.

"The rehabilitation of these men and the protection of future Selectees is peculiarly a responsibility of each and every local community. This responsibility extends to each individual in his capacity as a citizen of the community and more specially, it extends to the professions of medicine, of public health, and of pharmacy.

"It has been a source of gratification to the Public Health Service to witness the work of the joint committee of your Association and of the American Social Hygiene Association in mobilizing the resources of the American pharmacists behind the national venereal disease control program.

"The Public Health Service feels strongly that the pharmacists of the nation can be of material aid by referring sufferers from venereal disease to sources of adequate medical services, by educational activities, and by throwing the weight of their profession behind community and national control efforts. The far-sighted health administrator will recognize the vital function pharmacy can play in this public health endeavor. You may rely on the continued active coöperation and support of the United States Public Health Service."

WARREN F. DRAPER, M.D.
Acting Surgeon General,
U. S. Public Health Service

SECTION MEETINGS

The various sections of the Association held well-attended sessions and received, in the aggregate, over two hundred papers on scientific, historical, legislative, educational, and technical subjects. Each year the quality of the papers presented at these meetings shows definite improvement and two sections, Scientific and Practical Pharmacy, made plans this year to raise their requirements in order to insure even greater selection next year.

LAW ENFORCEMENT OFFICIALS

The Conference of Pharmaceutical Law Enforcement Officials held its thirteenth annual meeting discussing the scope of pharmacy law enforcement and various problems encountered in the several states during the past year.

PRIZE WINNERS

Richard O. Vycital, of the University of Illinois College of Pharmacy, was awarded the Kilmer Prize for his paper on "A Study of Endocarpic Adulterants of Spices."

William J. Husa, of the School of Pharmacy,

University of Florida, was awarded the Ebert Prize for his series of papers on the extraction of drugs.

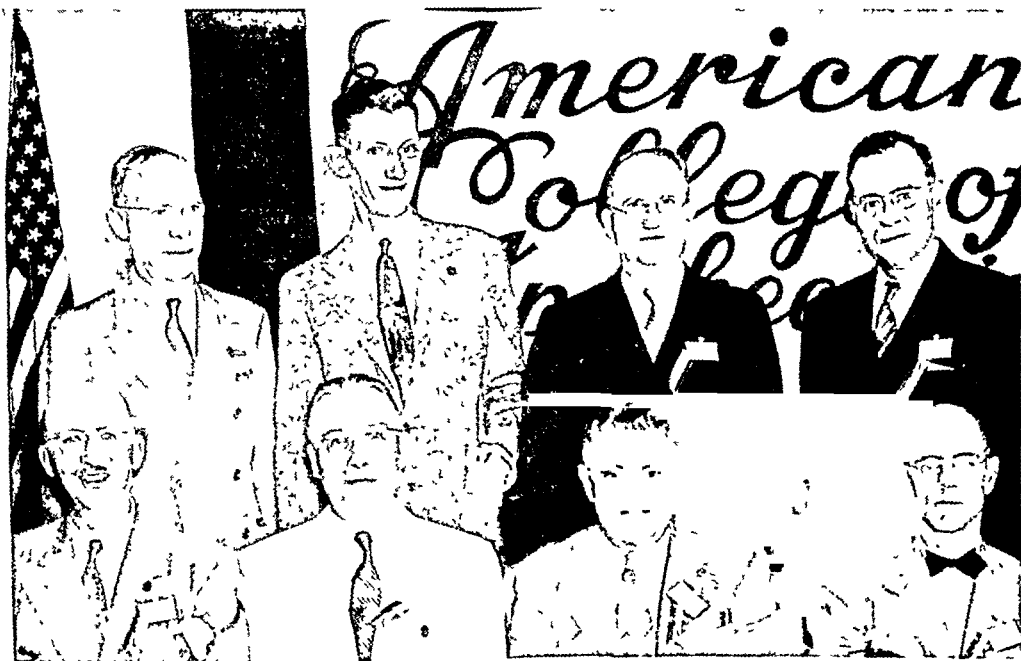
WOMEN'S AUXILIARY

Women may be expected to be called upon to take the place of men in various fields during the national defense emergency and women pharmacists should anticipate the need for their services in retail pharmacies, hospital dispensaries and industrial laboratories, Mrs. Robert P. Fischelis, president of the Women's Auxiliary of the AMERICAN PHARMACEUTICAL ASSOCIATION, told that organization at its meeting.

Mrs. Fischelis revealed that the student loan fund being established by the Auxiliary has reached the sum of \$1700 and the organization will continue to raise money until the fund reaches the goal of \$5000.

The following officers were elected by the Auxiliary.

President, Mrs. B. V. Christensen, Columbus, O.; *Honorary President*, Mrs. L. F. Kebler, Washington, D. C.; *First Vice-President*, Mrs. Laura M. Whelpley, St. Louis, Mo.; *Second Vice-President*, Mrs. R. C. Wilson, Athens, Ga.,



Officers of the American College of Apothecaries: Left to right, back row—Herbert Gerding, P. G. Stodghill, J. K. Attwood, Leroy Weidle, regional directors; front row—F. J. Lastoff, president-elect; A. L. Malmo, retiring president; Max Lemberger, president, and Charles V. Selby, secretary.

Secretary-Treasurer, Mrs. Hugo H. Schaefer, Yonkers, N. Y.; *Chairman of the Loan Fund Board*, Mrs. A. H. Uhl, Madison, Wis.; *Chairman of the Membership Committee*, Mrs. F. D. Stoll, W. Lafayette, Ind.; *Chairman of the Ways and Means Committee*, Mrs. Edward D. Davy, Cleveland, O.; *Parliamentarian*, Mrs. A. G. DuMez, Baltimore, Md.; *District Vice-Presidents*: Mrs. Robert S. Lehman, Brooklyn, N. Y.; Mrs. E. T. Motley, Columbus, S. C.; Mrs. C. H. Rogers, Minneapolis, Minn.; Mrs. J. B. Burt, Lincoln, Nebr.; Mrs. Adolph Ziefle, Corvallis, Ore.

A NATIONAL PROGRAM

None of the existing national pharmaceutical associations has a membership large enough to justify it to speak for pharmacy, President-elect Bernard V. Christensen, of Columbus, Ohio, told the Association in his installation address at the closing session of the convention.

"Obviously the voice of a profession must be an all-embracing organization—an organization representing all fields of pharmaceutical interest and endeavor—professional, commercial, educational, legal, and industrial," said Dr. Christensen. "A logical proportion of the persons engaged in that profession should be enrolled as members of this all-embracing organization in order that it may justly represent the profession. What are we going to do about it? While we should give this question serious consideration and talk about it, we must do something more than think about it and talk about it. I can conceive of no unselfish obstacle to prevent a co-ordination of all pharmaceutical forces through the instrumentality of a national association the structure of which permits sufficient flexibility to represent adequately all pharmaceutical interests.

"I can conceive of no question of concern to any group of the pharmaceutical family which cannot be given full and fair consideration through the instrumentality of the AMERICAN PHARMACEUTICAL ASSOCIATION. There is no question of concern to the profession as an all-inclusive body which cannot be impartially investigated and acted upon as facts and truth may indicate. The sections provide opportunity for free discussion on matters of group interest. Opportunity is provided for every member of the body pharmaceutic to express opinions, cast his vote and participate in movements tending

to promote the welfare of pharmacy and safeguard its interests," he said.

Dr. Christensen suggested that a plan be developed whereby state associations would contribute a flat fee to the A. PH. A. or have a minimum number of paid-up memberships in the Association in order to have the privilege of taking part in the deliberations.

He urged that a strong Junior AMERICAN PHARMACEUTICAL ASSOCIATION be developed through student branches in the various colleges of pharmacy, and urged pharmacists to take advantage of the opportunity provided under the George-Deen Act for the establishment of vocational courses, and called attention to the establishment of the American Institute of the History of Pharmacy.

PHARMACISTS IN DEFENSE

Dr. Christensen urged pharmacists to accept greater responsibilities under the national defense program. "The success of health programs depends on sincere and intelligent coöperation between the members of the health professions. The trend toward closer and more extended co-operation between the members of the health professions should be encouraged through every



B. V. Christensen, president of the AMERICAN PHARMACEUTICAL ASSOCIATION for 1941-1942.

legitimate means. Pharmacists should willingly and actively participate in public health movements and serve on public health boards and in public health organizations," he said.

"It is the duty of pharmacy as a profession to see to it that the type of pharmaceutical service available to the man in uniform is equal to that offered to the man in civilian life. The man in uniform is human, is subject to disease and is conscious of pain and suffering just as is the man in civilian dress. The man in uniform is entitled to a choice of drugs and medicines adapted to his individual needs, he is entitled to pure and efficient drugs, he is entitled to skilful and accurate compounding just as is the man in civilian clothes. It is the duty of pharmacy to provide enough men with adequate training and experience in pharmacy to render this type of service to the men in uniform. It is gratifying to state that very definite progress has been made in this direction and those leaders in pharmacy and others who have been largely responsible for this progress are deserving of the commendation of the profession and those it serves.

"Pharmacy must safeguard the future of the profession by regularly providing a supply of well-trained recruits adequate to meet public needs. Every individual connected with pharmacy in any of its aspects should aid in the safeguarding, perpetuation and improvement of the profession by helping to recruit young men of character and ability. Every pharmacist should make it a point to properly inform himself and then seek out and advise promising young men concerning the duties, requirements and opportunities in pharmacy. They can cooperate with high schools and with vocational schools in giving information and advice that may be helpful to young people considering the choice of a profession. Colleges can also take an active and constructive part in this service. The colleges must offer a different type of instruction than that which has been offered in the past. This will require a restudy and a revision of the courses and the curricula and this will undoubtedly result in the deletion of much obsolete material and the addition of information conforming to the needs of the times. They must give more emphasis to practical instruction such as practice drug stores, dispensing laboratories and manufacturing laboratories wherein students may obtain instruction and work-experiences under conditions simulating those they will meet in actual practice. More and more is being expected of the

COUNCIL TO MEET IN OCTOBER

The Council of the Association reorganized at its final meeting in Detroit and elected Dr. Robert P. Fischelis, of Trenton, N. J., as chairman for the ensuing year. Matters of immediate concern were dealt with and the Council voted to hold a special meeting in October to study recommendations referred to it for action by the convention.

college graduate. He must be prepared to measure up to the demands of the employer and the pharmaceutical public.

"Finally, in a program contributing to National Defense pharmacy is obligated to make every effort to properly conserve our drug supply. It is the job of pharmacy to provide for a supply of drugs and medicinals adequate for our national needs. Supply and distribution go hand in hand. Our supplies can be conserved by well-regulated and controlled distribution and in this the physician can cooperate effectively with the pharmacist. On prescriptions no more and yet no less than the patient needs should be dispensed. Quantity purchases of essential drugs should be determined by the professional needs of the drug store. Loss by deterioration in storage should be avoided by purchasing in limited quantities. Loss by deterioration may be reduced by proper storage. The pharmacist can be expected to provide, if possible, effective substitutes for drugs that become unavailable. Study and experimentation in devising more efficient methods of extraction and more economical forms of administration should be undertaken," said Dr. Christensen.

COMMITTEE APPOINTMENTS

The new personnel of the committees of the AMERICAN PHARMACEUTICAL ASSOCIATION appointed by the Council and President Christensen, will be found on Pages 344 and 345 of this issue.

RESOLUTIONS

ADOPTED BY THE AMERICAN PHARMACEUTICAL ASSOCIATION AT ITS EIGHTY-NINTH ANNUAL MEETING, DETROIT, MICHIGAN

AUGUST 17-23, 1941

PRESIDENT EVANS

1. *Resolved*, that the Association express its deepest admiration for the able manner in which Charles H. Evans has served as its president. For his many constructive accomplishments including the unprecedented increase in membership during his term of office, for his instructive and comprehensive address, and for the capable and efficient manner in which he conducted its meetings, this Association owes him a debt of gratitude.

ASSISTANT SECRETARY

2. *Resolved*, that this Association, through the Council, employ at once an assistant secretary whose duties shall be to assist the secretary in his work at the AMERICAN INSTITUTE OF PHARMACY, to help in increasing membership and interest in the Association; to do contact work in person and by mail with state associations, colleges of pharmacy, student branches and individual pharmacists; and to perform such other duties which shall be helpful in bringing additional services of this Association to all its branches. *Approved and referred to the Council.*

N. F. PROGRAM

3. *Resolved*, that this Association commend Chairman Justin L. Powers and his co-workers for their vision in shaping the policies of the National Formulary in keeping with the present-day needs of pharmacy; and that it urge that all possible efforts be made in a spirit of cooperation and mutual helpfulness between the U. S. P. and N. F., toward an early issuance of these compendia, thus making the five-year program of issuance effective.

PROGRAM OF PRESIDENT-ELECT

4. *Resolved*, that the address of the president-elect outlining his program for the ensuing year be acted on at the closing session of the Council at each convention, and that those plans and objectives favorably endorsed be put into operation without waiting another year or for an indefinite period for action.

PRIVILEGES OF PRESIDENT-ELECT

5. *Resolved*, that the president-elect be extended the privilege of attending all Council meetings held after his election and prior to his installation into office in order that he may be familiar with the activities of the Association.

INTERPROFESSIONAL RELATIONS

6. *Resolved*, that the Association endorse the successful work of the Sub-Committee on Interprofessional Relations of the Committee on Low Range Program of Policy in laying the ground work for the proposed conference of representatives of medicine and pharmacy to consider problems of mutual interest and urge that it continue to direct its efforts toward a closer relationship with medicine in promoting a program of mutual understanding with the American Medical Association and through state medical and pharmaceutical associations.

RESTRICTIVE LEGISLATION

7. *Resolved*, that the Association continue to direct its efforts toward the passage of national and state legislation which would restrict the dispensing and sale of drugs and medicines to duly licensed pharmacists.

ALL-PHARMACY MEETING

8. *Resolved*, that the Association invite representatives of all national pharmaceutical associations to meet at the AMERICAN INSTITUTE OF PHARMACY to participate in an effort to coordinate all pharmaceutical activities in order to prevent an over-lapping of services and to further advance pharmacy as a profession.

VENEREAL DISEASE CAMPAIGN

9. *Resolved*, that the program of the Joint Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Social Hygiene Association as outlined in its report to this convention be endorsed and that all pharmacists be urged to support the committee in its work of cooperating with public health agencies in venereal disease control.

PHARMACY IN GOVERNMENTAL SERVICES

10. *Resolved*, that the Association increase its efforts to bring about the extension and improvement of pharmaceutical service in the various divisions of the government and the full recognition of pharmacy as a profession, and be it further

Resolved, that the Committee on Status of Pharmacists in the Government Services be instructed to take such steps as may be necessary to promote the establishment of a separate pharmacy corps in the U. S. Army by Congressional action so that pharmaceutical service may be adequately supervised and maintained on a level which will assure full protection of our military forces.

PERSONNEL PROBLEMS

11. *Resolved*, that the Association cooperate with the Joint Committee on Personnel Problems representing the A. Ph. A., A. A. C. P., N. A. B. P., and N. A. R. D. in its efforts to accomplish its prime objectives of improving conditions under which pharmacists practice their profession.

PRACTICAL PHARMACY JOURNAL

12. *Resolved*, that the Association endorse the work of the editor of the Practical Pharmacy Edition of the Journal and that it continue to distribute this publication during the coming year to each dues-paid member of every state association as a service of the AMERICAN PHARMACEUTICAL ASSOCIATION. *Approved and referred to the Council.*

EDITOR OF SCIENTIFIC JOURNAL

13. *Resolved*, that a full-time employee of the Association be named editor of the Scientific Edition of the Journal with headquarters in the AMERICAN INSTITUTE OF PHARMACY, in order that the objectives of the Constitution to foster pharmaceutical literature and diffuse scientific knowledge may be more adequately coordinated.

CHANGES IN BY-LAWS

14. *Resolved*, that consideration be given to the advisability of changing the By-Laws of the A. Ph. A. and of the House of Delegates to bring them in line with present procedure.

PHYSICIANS' SAMPLES

15. *Resolved*, that the Association do everything within its power to discourage and prevent the misuse of the so-called "physicians' samples," by encouraging the introduction and passage of suitable legislation dealing with the problem and by seeking the cooperation of the distributors of sample products in correcting abuses.

MAINTAINING EDUCATIONAL STANDARDS

16. *Resolved*, that the Association use its full efforts and influence in opposing any legislative or other activities which would tend to lower the educational standards of pharmacy.

REFRESHER COURSES

17. *Resolved*, that the Association highly commend those institutions and organizations which have been serving the interests of our profession by offering "refresher courses" and that it strongly urge the continuation and further extension of this educational service.

COMMITTEE ON LEGISLATIVE POLICY

18. *Resolved*, that the Committee on Modernization of Pharmacy Laws be discontinued with the thanks of the Association for its splendid work and that it be superseded by a Committee on Legislative Policy, whose duty it shall be to lend advice and cooperation to all state associations and their legislative committees in matters pertaining to legislation affecting the commercial or professional phases of pharmacy.

PHARMACISTS IN DEFENSE PROGRAMS

19. *Resolved*, that the Association strongly urge pharmacists in every community of this country to seek membership in all defense councils and local Red Cross units and to participate actively in their work.

MEDICAL CARE INSURANCE

20. *Resolved*, that the Committee on Social and Economic Relations continue its studies of the various medical care insurance plans and particularly those which provide for the cost of prescriptions and medical supplies, and that pharmacists be urged to seek advice of that committee before entering into any contracts with insurance companies or other similar agencies.

RETAIL SALES TAXES

21. *Resolved*, that the Association wholeheartedly support and approve the efforts being made to raise a considerable portion of our defense expenses by taxation. We urge, however, that in every instance where a tax on retail sales is enacted it be made mandatory for the tax to be passed on to the consumer and that it be made a punishable offense for any retailer to refuse or fail to collect such tax from the consumer.

PHARMACEUTICAL SERVICE IN THE ARMY AND NAVY

22. *Whereas*, in the interest of public safety and welfare the distribution, compounding and dispens-

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PHARMACEUTICAL SERVICE IN THE ARMY AND NAVY

22. *Whereas*, in the interest of public safety and welfare the distribution, compounding and dispens-

ing of medicines is now legally restricted to persons who have demonstrated their competency through examination and have been licensed by the Board of Pharmacy of the state in which they practice, and

Whereas, it is no less necessary that the personnel of the military, naval and other governmental services be afforded the same protection in the matter of preparing and distributing medication as is accorded them in civil life,

Be it Resolved, that the assignment of duties connected with the compounding and dispensing of drugs and medicines in the armed forces be restricted to persons duly licensed to practice pharmacy, and

Be it Further Resolved, that copies of this resolution be transmitted by the AMERICAN PHARMACEUTICAL ASSOCIATION to the Surgeon General of the United States Army, the members of the Military

Affairs Committee of the Senate and to the members of the Military Affairs Committee of the House of Representatives.

RESOLUTION OF THANKS

23. *Resolved*, that the AMERICAN PHARMACEUTICAL ASSOCIATION hereby extends its sincere appreciation to Drs. Morris Fishbein, Theodore Klumpp, C. F. Kettering, F. J. Brown and B. Frank Kyke for their contributions to its program; and to B. A. Bialk, General Chairman and Local Secretary of this convention, the members of the local committee, the manufacturers who have so generously entertained those in attendance, and all others who have contributed to the enjoyment and comfort of our delegates, for the most efficient and hospitable handling of accommodations and social events for the 89th annual meeting.

PRE-PHARMACY COURSE SUGGESTED

AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY DIRECTS COMMITTEE TO STUDY REQUIREMENT THAT STUDENTS COMPLETE THEIR CULTURAL STUDIES BEFORE PROFESSIONAL TRAINING

SEPARATION of academic or cultural subjects from the professional curriculum of colleges of pharmacy and requiring students to take such subjects in a pre-pharmacy course, was suggested by Dean H. Evert Kendig, President of the American Association of Colleges of Pharmacy, at its forty-second annual meeting, held in Detroit, Michigan, prior to the A. Ph. A. meeting.

"In giving voice to this broadened concept of pharmaceutical education," said Dean Kendig, "I am not unmindful of prevailing conditions

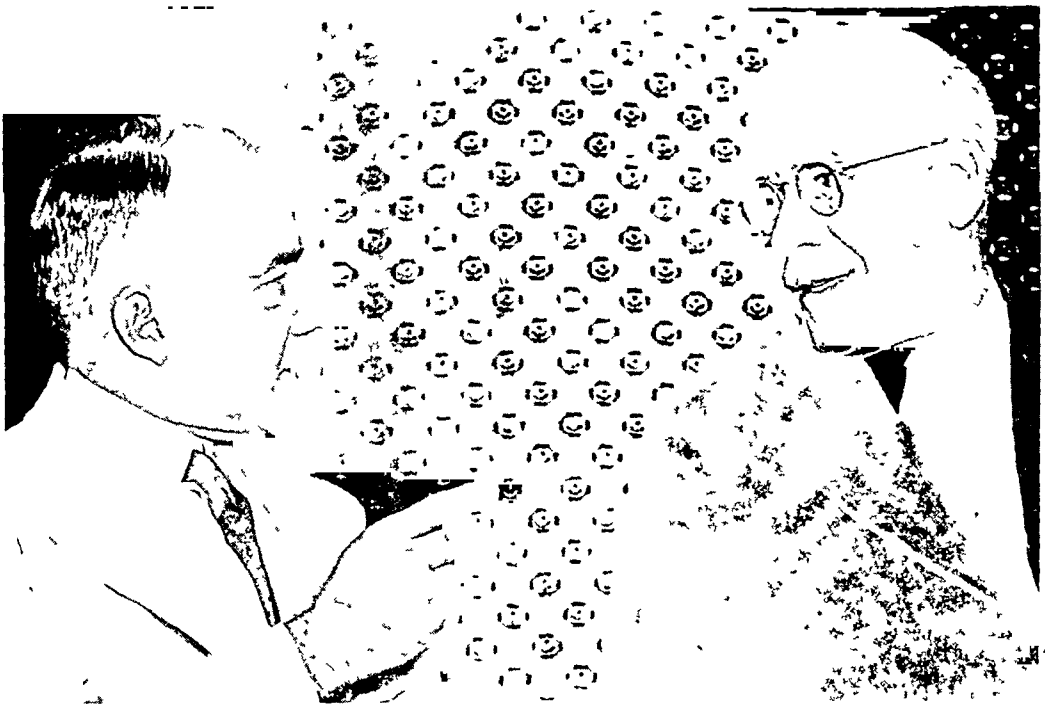
throughout the industry, and particularly those existing in the professional service and retail branch.

"We hear much about a shortage in the supply of pharmacists as well as the contention that a deficiency does not exist. I have listened to formal and informal arguments by the supporters of both theories. They never reach common ground because they start from different premises.

"Those who find a dearth of competent personnel believe that the existing pharmacies and the entire service they render, are a convenience to which the American public has become accustomed and which it would not willingly surrender.

"The advocates of the too many pharmacies theory claim that there are far more drug stores than are required to render an adequate strictly pharmaceutical service.

"Regardless of which thought we support, we must not lose sight of the fact that the system governing to-day's practice is the result of many years of habituation and, even though a change



Dr. H. Evert Kendig, of Philadelphia, retiring president of the American Association of Colleges of Pharmacy, discusses his recommendation concerning a pre-pharmacy course with Dr Ernest Little, of Newark, N J., retiring chairman of the executive committee of the college association

were desirable, it could not be effected by radical measures over night

"It is not my intention or desire to contend for an advanced educational program for which pharmaceutical opinion is not prepared. Rather, I have been induced by my thinking to propose an educational program for pharmacy which, I am sure, will have the support of pharmaceutical opinion in a relatively short period of time.

"The future of pharmacy lies in the field of professional practice. There has been an observable trend in this direction for some time, due in large part, I believe, to the stimulating influence of the four-year course. We must further this direction by proper education. It stands to reason that pharmacy cannot expect a position of parity with its colleagues in the other health professions, nor can it rightfully demand or assume a full share of responsibility in public health regulation and control, without an educational preparation adequate for the exacting requirements, and inferior to none," said Dean Kendig.

The Association by resolution instructed its Committee on Problems and Plans to give consideration to a pre-college course of appropriate content and length as an entrance requirement

to schools and colleges of pharmacy to become effective at a practicable future date or year.

SUPPORT OF INDUSTRY

Dean Kendig pointed out the fact that since the educational requirements of pharmacy had been raised to the present level more and more manufacturers were adding graduate pharmacists to their scientific and sales staffs and, as a result, were taking a greater interest in pharmaceutical education. He reported on meetings which he had held with representative manufacturers and stated that he believed they would cooperate in a program to attract students to study pharmacy and to make available scholarships to assist worthy students in obtaining college training. Dean Kendig asked the appointment of a special committee to work on such plans in cooperation with manufacturers, and the Association approved his recommendation.

STUDENT DEFERMENTS

Colleges of pharmacy have a twofold problem in the present emergency, Dr. F. J. Brown, Consultant of the American Council on Education, told the Association. They must train sufficient students to meet the immediate defense needs and, at the same time, to meet the long-range needs of the country for trained personnel.

Dr. Brown discussed the background and operation of the Selective Service and Training Act, and to those who have been critical because medical students have received more specific deferment consideration than pharmacy students have, he said, "The reason for this difference between the classifications of medical and pharmaceutical students is not the result of variance of judgment of local boards. It is not due to the attitude of National Headquarters Selective Service System for they only last week expressed an entire willingness to prepare a directive regarding students of pharmacy. It rests squarely on the members of your own profession for there is a divergence of judgment among yourselves. Some believe there are too many drug service

stations and hence too many pharmacists; others, equally sincere, believe there is an actual and a growingly acute shortage. Until and unless there can be the same unanimity of judgment within the profession as now exists in medicine and most of the other professional fields little progress can be expected in establishing uniformity of practice in classification of pharmaceutical students by local boards. In the meantime, in states in which acute shortages are now apparent it will be necessary to contact State Directors of Selective Service and procure deferment of students on a state rather than a national basis. This is an unwise procedure but is approved by National Headquarters as the only alternative under the present circumstances."

EDUCATIONAL FOUNDATION

Plans for the creation of an American Foundation for Pharmaceutical Education, made up of representatives of the nine national pharmaceutical associations, were outlined by Dean Erwin Little, of Newark, N. J., Chairman of the Committee on Endowments of the National Drug Trade Conference. The new body, formation of which was approved by the A. A. C. P. by resolution, would receive, administer and allocate funds to help worthy and needed colleges develop strong undergraduate programs, encourage graduate work, encourage scientific research in colleges of pharmacy and render other assistance to pharmaceutical education. Dean Little's committee will make its report on the proposed Foundation at the meeting of the National Drug Trade Conference in December.

NEW OFFICERS

The American Association of Colleges of Pharmacy elected the following officers at its closing session: *President-Elect*, H. C. Newton, Boston, Massachusetts; *Vice-President*, P. Foote, Des Moines, Ia.; *Secretary-Treasurer*, Zada M. Cooper, Iowa City, Ia.; *Members of the Executive Committee*, Ivor Griffith, Philadelphia, Pa.; Forest Goodrich, Seattle, Wash.; *Chairman, Executive Committee*, C. H. Rogers, Minneapolis, Minn. Dr. R. A. Kuever, Dean of the School of Pharmacy of the University of Iowa, Iowa City, who was elected president of the association at the closing session of last year's convention, took office for the ensuing year.



Dr. Morris Fishbein, editor of the Journal of the American Medical Association, who addressed the joint dinner of the college and board associations.

BOARDS OF PHARMACY ASK EQUITABLE DRUG LAW ENFORCEMENT

CITE DISTRIBUTION OF DANGEROUS DRUGS BY UNTRAINED GIRLS IN THE OFFICES OF DISPENSING PHYSICIANS IN THEIR APPEAL TO FEDERAL LAW ENFORCEMENT OFFICIALS

ENFORCEMENT of the Federal Food, Drug and Cosmetic Act with respect to sale of dangerous drugs labeled "to be dispensed only by or on the prescription of a physician" should be directed against untrained girls in the offices of dispensing physicians as well as against the practicing pharmacist, Sylvester H. Dretzka, President of the National Association of Boards of Pharmacy, told that organization at its 38th annual meeting, held in Detroit, Michigan, prior to the A. Ph. A. meeting.

The new Federal Food and Drug Law was enacted to provide greater protection to public health but it is now found that the legend, "to be dispensed by or on the prescription of a physician" with respect to dangerous drugs, in many instances carries no public protection, merely having the effect of transferring the retailing of dangerous drugs from professionally trained pharmacists to untrained girls in the offices of some dispensing physicians, said Mr. Dretzka.

"There is serious danger to the public in such loose practices. A brief survey which we made in my state recently disclosed that patients who were refused these dangerous drugs by a pharmacist and directed to a physician, secured the drugs without seeing the physician. It is not likely that other states differ greatly from Wisconsin in this respect.

"I therefore urge member boards to examine their statutes to determine what can be done to defend the professional integrity of their pharmacists' registrants, and at the same time protect the public from these dangerous practices.

"In past months, the United States Food and Drug Division of the Federal Security Administration called before it many pharmacists who were asked to show reasons why their sale of these products to consumers, without prescription, should not be reported to Washington for action.

"As enforcement agencies, our boards of pharmacy gave the federal authorities every coöperation in that instance. Yet, it appears that one might expect that at least the same zeal be demonstrated in the tracking down of unprofessional persons carrying on such practices," he said.

The Association supported President Dretzka by a resolution asking the Federal Food and Drug Administration to correct the situation and offering the assistance of board of pharmacy officers in the enforcement of the federal law.

DR. FISHBEIN SPEAKS

Dr. Morris Fishbein, Editor of the *Journal of the American Medical Association*, addressed the joint banquet of the board and college associations on the subject of medical and pharmaceutical coöperation, taking as his text the quotation of Percival: "This amicable intercourse and coöperation of the physician and the apothecary, if conducted with the decorum and etiquette which should always be steadily observed by professional men, will add to the authority of the one, to the respectability of the other, and to the usefulness of both."

NEW OFFICERS

The Association elected the following officers for the ensuing year:

Honorary President, David F. Jones, Watertown, S. Dak.; *President*, Paul Molyneux, Mobile, Ala.; *Vice-President*, Charles Bohrer, West Plains, Mo.; *Secretary*, H. C. Christensen, Chicago, Ill.; *Treasurer*, Robert L. Swain, New York, N. Y.; *Member Executive Committee*, S. H. Dretzka, Milwaukee, Wis.; *District Chairman*, District No. 1, E. J. Murphy, Manchester, Conn.; District No. 2, John J. Debus, Jersey City, N. J.; District No. 3, E. W. Gibbs, Birmingham, Ala.; District No. 4, A. Lee Adams, Glencoe, Ill.; District No. 5, J. L. Rabe, Des Moines, Ia.; District No. 6, Peter L. Grossimon, New Orleans, La.; District No. 7, C. Earl Watkins, Portland, Ore.; District No. 8, Newell Stewart, Phoenix, Ariz.

AMERICAN PHARMACEUTICAL ASSOCIATION

OFFICIAL ROSTER FOR 1941-1942

(Committees will be corrected as appointments are made by the President, Chairman of the Council, Chairman of the House of Delegates and Chairman of the Sections)

OFFICERS OF THE ASSOCIATION

President, B V Christensen, Columbus, Ohio
Honorary President, J C Peacock, Philadelphia, Pa
First Vice President, J K Attwood, Jacksonville, Fla
Second Vice President, L W Rowe, Detroit, Mich
Secretary, E F Kelly, 2215 Constitution Ave Washington D C
Treasurer, Hugo H Schaefer, 600 Lafayette Ave Brooklyn, N Y
Editor of the Journal Emeritus, E G Eberle *Scientific Edition*, A G DuMez 32 S Greene St, Baltimore, Md,
Practical Pharmacy Edition, R W Rodman 2215 Constitution Ave, Washington, D C

THE COUNCIL

Elected Members—H C Christensen 130 N Wells St, Chicago Ill (1942), R P Fischelis 28 W State St, Trenton, N J (1942), Ernest Little, 1 Lincoln Ave, Newark, N J (1942) Glenn L Jenkins Purdue University, Lafayette Ind (1942), H A B Dunning Charles & Chase Sts, Baltimore Md (1943) F J Cermak 3501 E 93rd St, Cleveland O (1943) F E Bibbins Eli Lilly & Co, Indianapolis Ind (1944), P H Costello Cooperstown N D (1944), R L Swain 330 W 42nd St, New York N Y (1944)
Ex-Officio Members—B V Christensen C H Evans, J K Attwood, L W Rowe E F Kelly Hugo H Schaefer, Henry H Gregg Jr

OFFICERS OF THE COUNCIL

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Between the Lines

WHEN you read the story of the 89th Annual Meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION and the resolutions adopted, printed in this issue, you must be impressed, not merely with the words which were uttered or the reports which were presented at the convention in Detroit, but with the thousands of hours of study and work which hundreds of pharmacists and others are contributing through this Association to help *you* in your practice of the profession. Read between the lines of the convention summary and visualize, if you will, the work which has led up to such developments as the following:

- The joint conference to be held shortly by the American Medical Association and the AMERICAN PHARMACEUTICAL ASSOCIATION to discuss some of your most pressing problems in establishing proper relations with physicians. This conference should produce an understanding which will be a new basis of coöperation on which you can build a closer professional alliance with physicians in your community.
- The work of this Association, with other groups, in developing courses of study for use in bringing distributive education programs under the George-Deen Act to your state for you and your employees, and in promoting "refresher" courses.
- The dependence which public health authorities are placing upon pharmacists in the venereal disease control program—and the manner in which they are guiding those in need of advice or materials to the retail pharmacy.
- The recognition which pharmacists are receiving under the Civilian Defense program.
- The efforts which are being made to defend the pharmacist's integrity under food and drug laws and under narcotic laws.
- The efforts which are being made to restrict the dispensing and sale of drugs and medicines to duly licensed pharmacists.
- The studies being made of personnel problems to improve the conditions under which pharmacists practice their profession.
- The efforts being made to extend and improve pharmaceutical service in the various divisions of the government and to secure the establishment of a Pharmacy Corps in the United States Army.
- The studies being made of medical care insurance plans and the advisory service available to pharmacists in connection with such plans.
- The efforts being made to make it mandatory for retail sales taxes to be passed on to the consumer instead of permitting them to be absorbed by retailer.
- The steps being taken to prevent the misuse of "physicians' samples."
- The work of this Association in revising and publishing the National Formulary and the Pharmaceutical Recipe Book.
- The grants of financial assistance with which this Association is supporting pharmaceutical research of a type which will enable pharmacists to render greater services to physicians and to the public.
- The work of this Association in stimulating a greater appreciation of the profession of pharmacy through the AMERICAN INSTITUTE OF PHARMACY, the Hugh Mercer Apothecary Shop in Fredericksburg, Va., and the Leadbeater-Stabler shrine in Alexandria, Va., visited by thousands of tourists every year.

- The work of this Association in securing deferment consideration for pharmacists and students of pharmacy in order that the military and civil needs for personnel may be supplied with the least disruption.
- The efforts being made to secure a differential in the taxing of ethyl alcohol used for pharmaceutical purposes.
- The assistance this Association renders to state pharmaceutical associations through bulletins, furnishing facts and figures to support or combat legislation, and advice and help on other specific problems.
- The publication of this JOURNAL which is being sent to the dues-paid members of every state pharmaceutical association in the country.

IN ADDITION to the hours and hours of time devoted to these and many other problems by members of the Association staff and by volunteers among practicing pharmacists, the staffs of colleges of pharmacy, boards of pharmacy, hospital pharmacists, and research workers, the net cost of this work in *your* behalf approximates \$100,000 a year.

You can help this Association to help you *still further*. If you are not already an active member, *join to-day*; take part in the work, contribute your counsel and advice, and share in the greater benefits which will accrue to you individually as a result of membership in a stronger, more effective association.

Fill out the application printed below and send it in with your check to-day. Membership taken now will cover the period to December 31, 1942 and the JOURNAL will be sent from the time the application is received. *Now* is the time to join. You will be welcomed into the company of other pharmacists who, like yourself, are interested in making pharmacy a profession of increasing prestige and service.

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Applicants for registration, who contemplate opening a pharmacy, may find lists of necessary items and the probable quantity required and approximate cost.

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Throughout, the helpful purpose is evident to aid the druggist and pharmacist by presenting actual data from surveys, which Board Members, State Pharmaceutical Association Officials and Members of Faculties can bring to the attention of Registrants, Members of Associations and Students.

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*Practical
Pharmacy
Edition*

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RESOLUTIONS TRANSFORMED INTO ACTION

IF ANY pharmacist wonders what has become of the resolutions approved by the Detroit meeting of this ASSOCIATION last August, he can learn the answer by consulting the report of the two-day meeting of the Council of the ASSOCIATION held in Washington, D. C., October 4th and 5th which is reported in this issue of the Practical Pharmacy Edition of the JOURNAL. At this meeting, within six weeks of the convention, the members of the Council gathered from various parts of the United States and sat down in the Library of the AMERICAN INSTITUTE OF PHARMACY to study carefully the 1941 resolutions and their implications. They set the wheels in motion which will carry out the actions of the convention to the fullest extent possible. Reports of officers and committees and the recommendations of Retiring President Evans and President Christensen were likewise considered carefully and acted upon. Every item of business referred to the Council was disposed of in a manner to assure its ultimate transformation into an accomplishment for the service of the members of the ASSOCIATION and the profession of pharmacy in general.

Some actions of the Council naturally stand out as more important than others. Among these are the expression of confidence in the continuous revision program of the U. S. P. and N. F. and the steps taken to assure the National Formulary's accomplishment of the desired end in full coöperation with the U. S. P.; the action taken on the problem of exempt narcotic preparations; the authorization of an experiment with a JUNIOR AMERICAN PHARMACEUTICAL ASSOCIATION among students of colleges of

pharmacy; the effort to improve the status of pharmacists in the government service; the calling of an "All-Pharmacy Conference to consider basic problems relating to the future of pharmacy in the United States and the submission of other fundamental proposals to the National Drug Trade Conference for action.

The move for an "All-Pharmacy Conference," suggested by President Charles H. Evans in his presidential address before the Detroit Convention and there endorsed offers promise of developing into one of the most important conferences of its kind ever held.

The rapidly changing events of the past year have placed an added strain on all associations. Pharmacy, medicine, and dentistry have had to make strong representations to Selective Service officials to secure the judicious deferment of students needed to maintain an adequate supply of trained men in their respective fields. Pharmacy is faced with a real task in its efforts to secure a Pharmacy Corps in the Army. The campaign to control venereal disease has opened the eyes of public health officials to the importance of pharmacists in safeguarding the health of the American people. The new Civilian Defense program offers a real challenge to retail pharmacists. Shortages of drugs and the priorities system of the Office of Production Management present a pressing problem which demands unified, enlightened action.

It was felt by the Council that state association officers could bring a viewpoint to the solution of these problems and, of equal importance, could obtain facts and first-hand

information which can be supplied to them at Washington, which would result in the launching of a unified program of action.

The Selective Service Office wants facts and figures on the supply and demand of pharmacists in the several states. A Pharmacy Corps in the Army will be possible only through the combined action of all pharmaceutical associations. The public health work and civilian defense program need state contacts to "follow through" on the work that has been done with national officials. The problem of drug supplies calls for intelligent, understanding advice to pharmacists.

At no time in recent years have the secretaries, editors and other officials of state pharmaceutical associations been so important to the profession. With their close contact with the pharmacists in each state, these officers are key men in the supply of information, the formulation of policies, and in the mobilization of pharmaceutical services.

If the pharmaceutical association secretaries of the country had first-hand information on these problems; if they had the opportunity to sit down around a table to discuss these matters with officials of the civilian defense movement, the Public Health Service, the Food and Drug Administration and other departments of the

government, they would gain the background of information they need to use their power, influence and facilities most effectively in the interests of pharmacy and of the country.

What is the answer?

Obviously it is to invite these key individuals in every state to come to Washington and get the information they need to guide their actions. That is just what the AMERICAN PHARMACEUTICAL ASSOCIATION has in mind in calling an All-Pharmacy Conference in Washington as early in 1942 as possible. These men and women on the scene for a day or two can accomplish results which would be impossible to achieve through bulletins or letters. They will go back to their respective states armed with the facts they need to do a more effective job of leadership among their constituents, and the result of such inspired direction may well prove to make the difference between success and defeat in those objectives which all pharmacists seek.

The calling of this conference is a recognition of the unprecedented demands which the present emergency is making upon pharmacy; it is also a recognition of the importance of the state pharmaceutical associations, their secretaries, and their officers in making it possible for pharmacy to meet these demands.

THE PHARMACIST IN CIVILIAN DEFENSE

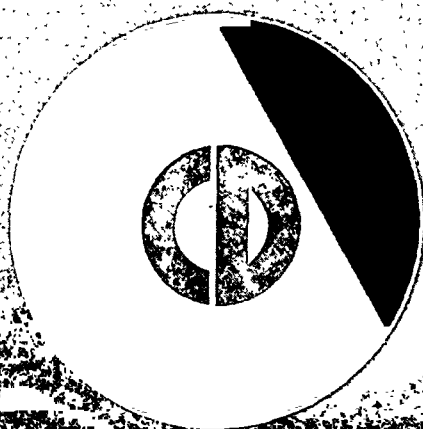
WITH the entire nation mobilizing for service in the event of a national emergency, it is important that the pharmacist identify himself with the Civilian Defense Movement. Although an Office of Civilian Defense has been established in Washington, D. C., the actual development of plans is being left to Civilian Defense Directors in the respective states, and the operation of such plans will probably be handled by individual towns, cities, and counties.

If the pharmacist is to render the important services he is capable of contributing to the Civilian Defense Movement, he must lay before

his local and state authorities the information they need concerning his facilities and training which may be relied upon in an emergency.

Elsewhere in this issue is published the Civilian Defense Plan developed by the District of Columbia Pharmaceutical Association and which has been accepted by the President of the Board of Commissioners of the District. It represents a comprehensive analysis of the services and facilities of the pharmacist and may well serve as a basic pattern for other state pharmaceutical associations in developing similar plans to meet their needs.

Emergency Aid Station CIVILIAN DEFENSE Metropolitan Area



Artist's sketch of the sign, 11" by 14" in size, which is issued to each pharmacy in the District of Columbia which meets the requirements of an Emergency Aid Station. The background of the sign is red, the lettering is white, the background of the seal is blue with a white triangle and red letters. The pharmacist agrees to display one copy of the sign in the window of his pharmacy and one inside his store. The sign was approved by the Civilian Defense Director.

DISTRICT OF COLUMBIA MOBILIZES PHARMACISTS IN CIVILIAN DEFENSE

FIFTEEN-POINT PLAN DEVELOPED
BY PHARMACEUTICAL ASSOCIATION
AND ACCEPTED BY THE PRESIDENT
OF THE BOARD OF COMMISSIONERS
SHOWS HOW THE PHARMACIST'S
SERVICES AND FACILITIES CAN
BE UTILIZED EFFECTIVELY IN THE
EVENT OF A NATIONAL EMERGENCY

JOHN Russell Young, President of the Board of Commissioners of the District of Columbia, has accepted a fifteen-point plan for the participation of pharmacists in the Civilian Defense Program submitted by the District of Columbia Pharmaceutical Association, and has ordered that all necessary details for its execution be arranged at once.

The plan was drafted by a special committee under the chairmanship of W. Paul Briggs, Dean of the School of Pharmacy of George Washington University and it represents the most comprehensive outline yet developed of the specific services which pharmacists are capable of rendering in a national emergency. Since the National Office of Civilian Defense has stated that state programs will be left up to the discretion of the Defense Directors of the individual states, pharmacists generally have been analyzing their services and facilities in an effort to determine how best they can be utilized in such programs. The District of Columbia plan may well serve as a pattern for pharmacists in other states and it is published in full with this article.

EMERGENCY AID STATIONS

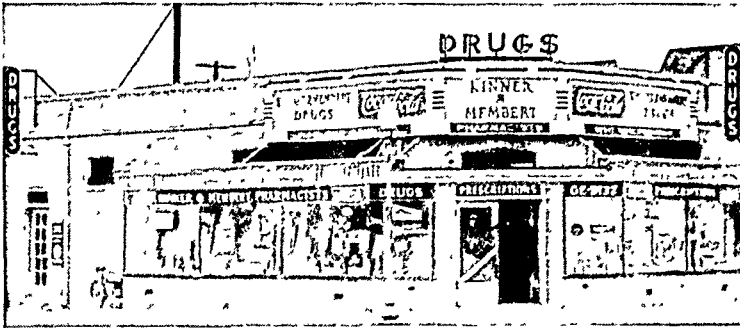
Under the plan the establishments of retail pharmacists who qualify will be designated as *Emergency Aid Stations*. It is important to note this title because it carries a different meaning than *First Aid Station*. The experiences of Great Britain have shown that most pharmacies do not have the available space to enable them to serve as First Aid Stations and, furthermore, the large amount of glass in a pharmacy presents an added danger in a bombing attack. The District of Columbia Plan recognizes this fact but

suggests that in practically every case a suitable temporary shelter can be found adjacent to the drug store.

In drafting the plan, Dean Briggs called attention to the fact that pharmacists are acquainted with the use of emergency drugs and many have had training in first aid procedures. Plans are under way to institute a special first aid course for pharmacists in the District. Dean Briggs cited the strategic location of pharmacies, the fact that they are open the greater part of every day, that every pharmacy has at least one telephone and the majority have many more, that many pharmacies operate delivery trucks which could be pressed into service as ambulances, that the chemicals needed for re-charging of gas masks should be available from pharmacists because they know chemistry, that the de-centralization of stocks of emergency drugs by placing them in 379 retail pharmacies would lessen the hazard of damage by bombing, and that the pharmacist's education and experience made him invaluable both in disseminating public health information and in maintaining public morale.

In order to qualify under the plan, a pharmacist must fill out an application setting forth his telephone numbers; the names of his registered pharmacists, the number of delivery trucks he has; whether or not his pharmacy has a radio receiving set; whether there is a cellar under the store, and, if so, how many outside exits it has, and the names of employees who have completed a formal course in first aid. He must also agree to assemble and hold in one place, ready for immediate use, an emergency kit of certain specified drug supplies, a cot or mattress, a blanket, and a first aid manual. It is further expected that each pharmacy will be adequately stocked with tetanus antitoxin, ether for anesthesia, hypodermic tablets of morphine sulfate, hypodermic syringes and needles and other supplies which a physician would need in an emergency.

The applications are filed with the secretary of the pharmaceutical association who issues interior and window signs designating the pharmacies of those who qualify as *Emergency Aid Stations*. The association pays the expense of the signs and for the administration of the plan.



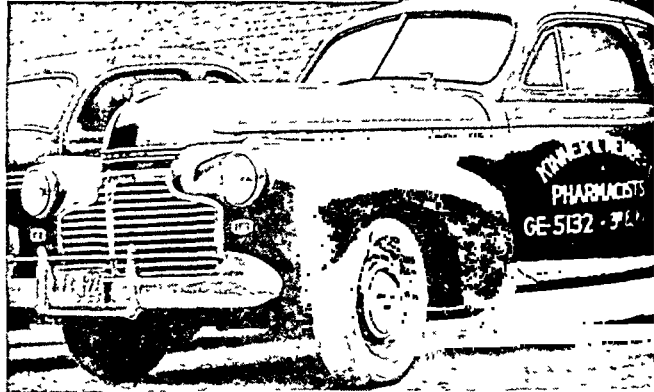
Left: Drug stores are strategically located to serve as Emergency Aid Stations.

Below: Many drug stores have delivery cars which, in an emergency, can be pressed into service as ambulances or for communication work.

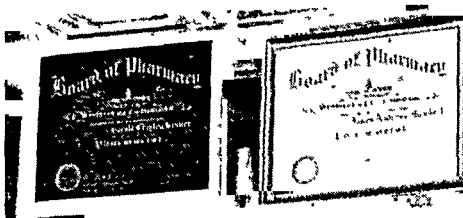


Above: The pharmacist can distribute public health material.

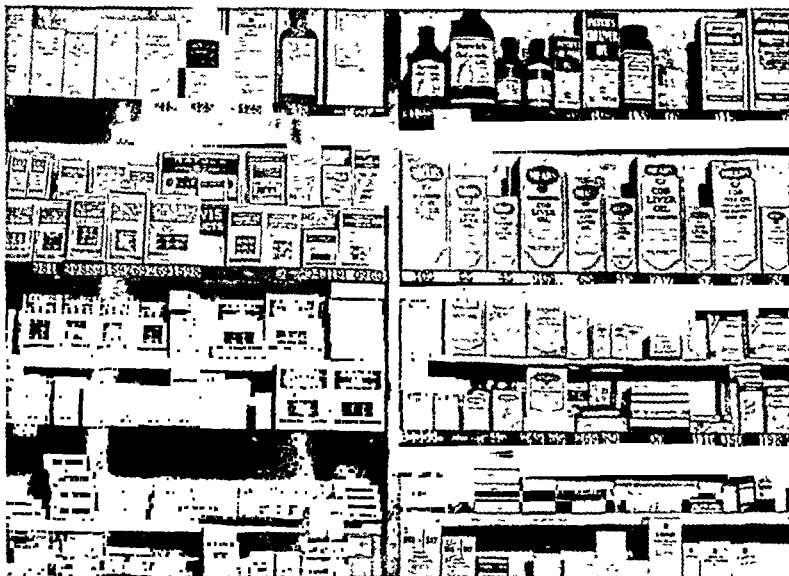
Right: The pharmacist's professional training is certified under the law.



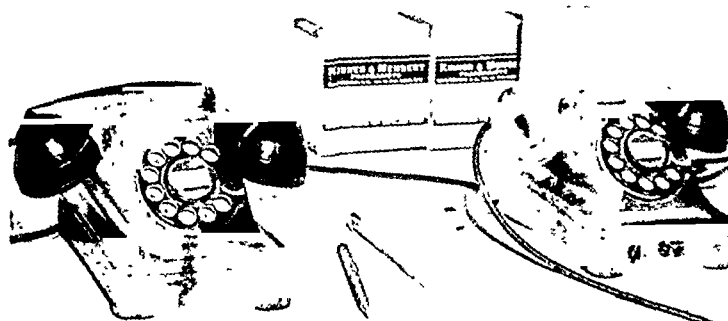
Above: Most pharmacists have had formal training in First Aid procedures.



Right: Drug stores stock the vitamin products and special dietary foods required in the maintenance of health.



Below: The pharmacist knows his customers intimately and he is an important man in the maintenance of civilian morale.



Above: Every pharmacy stocks the narcotic and sedative drugs which the physician needs in an emergency.

Above: Every pharmacy has at least one telephone and many have more than one. In an emergency these communication facilities would be invaluable.

APPLICATION FOR LISTING AS DISTRICT DEFENSE COUNCIL EMERGENCY AID STATION

Part I

Name of Drug Store.....
Address.....
All Telephone numbers.....
Owners name.....
Names of all registered pharmacists.....
.....
.....
.....
Number of delivery trucks?.....
Radio receiving set in store?.....
Is there a cellar under store?.....
If so—how many outside exits?.....
Names of employees who have completed a formal course in First Aid.....
.....

Part II

I (we) certify that every item listed below will be available in.....
Drug Store located at....., Washington, D. C.

I (we) further certify that within 24 hours after receipt of the identifying emblem of a District Defense Council EMERGENCY AID STATION that I (we) will prominently display said emblem and will assemble and hold in one convenient place, ready for a emergency use, all of the listed items.

.....
Date..... OWNER, Manager or Pharmacist in charge.

(Equivalent materials for any of the specific items listed will be acceptable.)

- | | |
|---|--|
| 2 4-oz. Sterile absorbent cotton | 1 Ice Bag |
| 2 Sterile Gauze Bandage 4-in. | 1 Flashlight |
| 2 Sterile Gauze Bandage 2-in. | 1 pkg. Splints (assorted) |
| 25 Sterile Gauze Pads 3 × 3 | 1 pkg. Safety Pins |
| 1 Tourniquet Bandage or equivalent | 1 Basin |
| 1 Adhesive Plaster 3 in. × 10 yd. | 1 pr. Scissors |
| 1 Hot Water Bottle | 1 pkg. Swab Sticks and Tongue Depressors |
| 1 Roll Paper Towels | 1 Eye Cup |
| 1 Triangular Bandage | 1 Sterno Stove |
| 6 Paper Cups | 1 pr. Tweezers |
| 1 Tube Burn Ointment | 2 1-oz. Sol. Ferric Subsulfate |
| 1 pt. Rubbing Alcohol | 1 bottle Mercuric Chloride Tablets |
| 1 4-oz. Tincture Iodine (1/2 strength) | 1 4-oz. Elixir Phenobarbital |
| 4 1/2-oz. Arom. Spirit Ammonia | 1 cake Germicidal Soap |
| 2 4-oz. Sol. Boric Acid | 2 1/2-oz. Collodion (flexible) |
| 1 2-dr. Butyn Sol. 2% (Dropper bottle) | |
| 1 Cot—Army or other type, or mattress or pad or stretcher | 1 Blanket |
| | 1 First-Aid Manual |

To meet the emergency needs of physicians, it is expected that every EMERGENCY AID STATION will have available emergency drugs such as:

- | | |
|----------------------------------|----------------------------------|
| Tetanus Antitoxin (Syringe pkg.) | Ethyl Chloride |
| H. T. Morphine Sulfate | Thromboplastin (local) |
| Ether for Anesthesia | Aromatic Spirit Ammonia (pearls) |
| Hypo Syringe & Needles | Amp. Caffein-Sodio-Benzozate |
| Sutures (Sterile) | Amp. Distilled Water |

Part III

If this drug store is certified as a District Defense Council EMERGENCY AID Station the undersigned pharmacists pledge that they will promptly familiarize themselves with the principles of First Aid.

.....

.....

.....

THE DISTRICT OF COLUMBIA PLAN AS SUBMITTED TO THE DEFENSE COUNCIL

- I. There are approximately 750 practicing pharmacists in the District of Columbia whose qualifications to handle, dispense, and compound drugs and medicines are established by licensure under the laws of the District of Columbia.
- II. These pharmacists are acquainted with the use of emergency drugs which are available in every drug store and the application of surgical dressings. They are familiar with the needs of physicians and the basic procedures of emergency, care of sick, and wounded.
- III. Many of these pharmacists have had training in formal First Aid courses and plans are already being formulated to make training in first aid available to all registered pharmacists in the District of Columbia.
- IV. The 379 drug stores in the District of Columbia are strategically located and open during the greater part of every day, providing a readily accessible center for civilian defense purposes. Authorities have estimated that at least one member of every family in the city has occasion to visit a pharmacy once or more every week. The well-trained pharmacist is the best informed person to disseminate public health information including methods for sterilizing water, general sanitation, use of antiseptics, burn dressings, and other emergency measures. Thus the neighborhood pharmacist is in the best position to distribute published information and to supply prompt advice in times of emergency.
- V. The supply of drugs, medicines, surgical and sick room requisites available in every drug store eliminates the need for establishing separate centers for supplying these items to the civilian population in time of emergency.
- VI. The drug store itself may not be an appropriate place, because of limited space, to serve as a temporary refuge for sick and wounded but in practically every instance a suitable temporary shelter can be found adjacent to the drug store. On request the committee would survey such facilities and prepare a directory for emergency use.
- VII. Many drug stores operate delivery trucks which in emergency could be converted to serve as ambulances for seriously wounded persons.
- VIII. Every drug store has at least one telephone (the majority have many more) which would provide adequate communication service with a central headquarters as well as with physicians, nurses, and hospitals. Most drug stores are also provided with radio receiving sets.
- IX. The administration of sedatives, hypnotics, and narcotic drugs is an important medical procedure in times of crisis. The neighborhood pharmacist having adequate stocks and knowledge of these drugs could, under the direction of physicians, ration daily supplies of such drugs. The pharmacist is the only person legally and professionally qualified to dispense these drugs.
- X. The maintenance of morale is of the utmost importance during a national emergency. The pharmacist is probably acquainted with a larger number of persons than any other individual in a community. He enjoys their respect and confidence and if supplied with the necessary factual information could be an important stabilizing force in his immediate community.
- XI. The maintenance of good health as the best protection against disease and infection is a service which pharmacists can render by advice on and supply of dietary supplements, vitamin products, and other preventive medicines.
- XII. The distribution of gas masks could be efficiently carried out through the drug stores of the city. Most types of gas masks require re-charging with chemicals. Supplies of these chemicals would be available in the drug stores, and the pharmacist's knowledge of these chemicals would make him the best qualified person to render this service to the civilian population.
- XIII. The storage of large supplies of emergency drugs in a central depot presents a real hazard in the event of bombings. By de-centralizing these stocks through distribution to drug stores major losses could be prevented.
- XIV. In any program for the civilian defense the pharmacist will be pleased to cooperate with the medical profession to provide the best possible service to the civilian population.
- XV. The District of Columbia Pharmaceutical Association, the individual pharmacists, and the drug stores of the city of Washington hereby place their facilities and personnel at the service of the District Defense Council for the duration of the national emergency.



N. F. AUTHORIZES SUBSTITUTION OF: AMARANTH FOR CUDBEAR BENZALDEHYDE FOR BITTER ALMOND

SCARCITY OF CUDBEAR AND OIL OF BITTER ALMOND DUE TO WAR LEADS THE NATIONAL FORMULARY TO ISSUE INTERIM REVISION ANNOUNCEMENT TO PERMIT USE OF SUBSTITUTES

BECAUSE World War II has made cudbear and oil of bitter almond practically unobtainable, the Committee on National Formulary of the AMERICAN PHARMACEUTICAL ASSOCIATION has issued an Interim Revision Announcement which permits, after October 15, 1941, the substitution of *amaranth* and *benzaldehyde*, respectively, for these two ingredients of N. F. VI preparations.

Amaranth is the trisodium salt of 1-(4-sulfo 1-naphthylazo)-2-naphthol-3,6-disulfonic acid, a coal-tar color of definite composition, standardized by the Food and Drug Administration as F. D. C. Red No. 2, specifications for which are listed in the Coal-Tar Regulations promulgated under the authority of the Food, Drug and Cosmetic Act. Pharmacists should specify *Amaranth*, N. F. (F. D. C. Red No. 2) in ordering this dye. It is a dark red-brown powder; 1 Gm. is soluble in about 15 cc. of water at 25° C.; and it is very slightly soluble in alcohol.

Both Tincture of Cudbear and Compound Tincture of Cudbear are used as coloring agents in National Formulary preparations, the compound tincture giving a darker color than the plain tincture. Under the Interim Revision Announcement, a five per cent weight-in-volume

aqueous Solution of Amaranth may be used in place of Tincture of Cudbear and the formula of a Compound Solution of Amaranth is provided to be used in place of Compound Tincture of Cudbear.

Sufficient Solution of Amaranth and Compound Solution of Amaranth should be used to simulate the color produced by Tincture of Cudbear and Compound Tincture of Cudbear. In preparations calling for Compound Tincture of Cudbear, an equal amount of Compound Solution of Amaranth will reasonably simulate the color, but there is no fixed relationship between the amount of Solution of Amaranth needed to simulate the color produced by Tincture of Cudbear in different preparations. The amount of Solution of

Amaranth required to produce a satisfactory color in each of the National Formulary preparations which call for Tincture of Cudbear has been determined in the laboratories of the AMERICAN PHARMACEUTICAL ASSOCIATION, however, and is given in a table which appears with the Interim Revision Announcement.

BENZALDEHYDE SUBSTITUTION

The Interim Revision Announcement provides formulas for Compound Elixir of Benzaldehyde and for Spirit of Benzaldehyde which may be used in place of Compound Elixir of Bitter Almond and Spirit of Bitter Almond, respectively, in N. F. VI preparations.

INTERIM REVISION ANNOUNCEMENT NO. 3. NATIONAL FORMULARY, SIXTH EDITION.

Substitution of Amaranth for Cudbear as a Coloring Agent in National Formulary Preparations

By action of the Committee on National Formulary, and with the approval of the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION, Amaranth (F. D. C. Red No. 2) may be substituted for Persio (Cudbear) as a coloring agent in N. F. VI preparations in which the latter is used as a coloring agent. When Amaranth is

TABLE 1

Preparation	N. F. VI Coloring Agent	Volume per Liter	Recommended Coloring Agent	Volume per Liter
Elixir Aminopyrinæ	Compound Tincture of Cudbear	10 cc.	Compound Solution of Amaranth	10 cc.
Elixir Ammonii Valeratis	Compound Tincture of Cudbear	30 cc.	Compound Solution of Amaranth	30 cc.
Elixir Aromaticum Rubrum	Tincture of Cudbear	20 cc.	Dissolve 2.5 Gm. Amaranth in 1000 cc. of Aromatic Elixir	.....
Elixir Cinchonæ Alkaloidorum	Compound Tincture of Cudbear	50 cc.	Compound Solution of Amaranth	50 cc.
Elixir Pepsini Compositum	Tincture of Cudbear	10 cc.	5% Solution of Amaranth*	6 cc.
Elixir Phenobarbitali	Tincture of Cudbear	7 cc.	5% Solution of Amaranth*	6 cc.
Liquor Aromaticus Alkalinus	Tincture of Cudbear	20 cc.	5% Solution of Amaranth.* Increase alcohol from 50 cc. to 60 cc.	10 cc.
Syrupus Bromidorum	Compound Tincture of Cudbear	16 cc.	Compound Solution of Amaranth	16 cc.
Syrupus Cinnamomi	Compound Tincture of Cudbear	60 cc.	Compound Solution of Amaranth	60 cc.
Syrupus Pini Albæ Compositus	Cudbear	1 Gm.	5% Solution of Amaranth*	7 cc.
Tinctura Persionis Composita	Tincture of Cudbear	150 cc.	5% Solution of Amaranth*	35 cc.

* Use a 5 per cent, weight in volume, aqueous solution of Amaranth.

used in place of Cudbear in the N. F. VI preparations listed in this announcement, it shall be employed in quantities which will reasonably simulate the color produced by Cudbear. If necessary, the alcohol content of the preparation involved must be adjusted to meet the requirements of N. F. VI. This action of the Committee on National Formulary is effective from October 15, 1941 until further notice.

The N. F. VI preparations which are directed to be colored with Cudbear or with Cudbear and Caramel, and the suggested concentrations of Amaranth to be used satisfactorily as a substitute are listed in Table 1. The formula for the Compound Solution of Amaranth suggested as a substitute for Compound Tincture of Cudbear in Table 1 is as follows:

LIQUOR AMARANTHI COMPOSITUS

Compound Solution of Amaranth

Liq. Amaranth. Comp.

Amaranth, 5 per cent aqueous solution	35 cc.
Caramel	100 Gm.
Alcohol	250 cc.
Distilled Water, a sufficient quantity,	
To make.	1000 cc.

Dissolve the caramel in 700 cc. of distilled water, add the 5 per cent, w/v, solution of amaranth, the alcohol, and sufficient distilled water to make the product measure 1000 cc., and mix well.

Alcohol content—From 22 to 24 per cent, by volume, of C₂H₅OH.

Replacement of Compound Elixir of Bitter Almond and Spirit of Bitter Almond with Compound Elixir of Benzaldehyde and Spirit of Benzaldehyde in N. F. VI Preparations

The Committee on National Formulary, with the approval of the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION, has voted to replace Compound Elixir of Bitter Almond and Spirit of Bitter Almond in N. F. VII with Compound Elixir of Benzaldehyde and Spirit of Benzaldehyde. The formulas for the new preparations are as follows:

ELIXIR BENZALDEHYDI COMPOSITUM

Compound Elixir of Benzaldehyde

Elix. Benzald. Comp.

Vanillin.	1.0 Gm.
Benzaldehyde	0.5 cc.
Orange Flower Water	150 cc.
Alcohol	50 cc.
Syrup	400 cc.
Distilled Water, a sufficient quantity,	
To make	1000 cc.

Dissolve the benzaldehyde and the vanillin in the alcohol; add the syrup, the orange flower water, and sufficient distilled water, in several portions, shaking the mixture thoroughly after each addition, to make the product measure 1000 cc.; then filter until the product is clear.

Storage—Preserve Compound Elixir of Benzaldehyde in tight containers.

Alcohol content—From 3 to 5 per cent, by volume, of C_2H_5OH .

Preparation—Elixir Bromidorum Trium.

SPIRITUS BENZALDEHYDI

Spirit of Benzaldehyde

Sp. Benzald.

Benzaldehyde	10 cc.
Alcohol	800 cc.
Distilled Water, a sufficient quantity,	
To make.	1000 cc.

Dissolve the benzaldehyde in the alcohol, and add sufficient distilled water to make the product measure 1000 cc.

Storage—Preserve Spirit of Benzaldehyde in tight containers.

Alcohol content—From 71 to 78 per cent, by volume, of C_2H_5OH .

AVERAGE DOSE—Metric, 0.5 cc.; Apothecaries, 8 minims.

One average metric dose contains 0.005 cc. of Benzaldehyde.

* * * * *

In view of the action taken by the Committee on National Formulary, notice is hereby given that from October 15, 1941, Compound Elixir of Benzaldehyde and Spirit of Benzaldehyde may replace Compound Elixir of Bitter Almond and Spirit of Bitter Almond as flavoring agents in all N. F. VI preparations in which the latter named Elixir and Spirit are ingredients.—JUSTIN L. POWERS, *Chairman*, National Formulary Committee.

Pharmacists will note that this Interim Revision Announcement is *permissive* in character. In other words, Amaranth *may* be used in place of Cudbear and Benzaldehyde *may* be used in place of Bitter Almond, but preparations using *either* coloring substance or *either* flavoring agent may be dispensed.

It is entirely possible that the current World War may cause shortages of other drugs, in which event additional Interim Revision Announcements will become necessary. Pharmacists are therefore urged to follow the pages of this JOURNAL closely for such official announcements concerning National Formulary preparations

REPRINTS AVAILABLE

Reprints of the Interim Revision Announcement on Amaranth and Benzaldehyde may be obtained without charge by sending a self-addressed, stamped envelope to

Justin L. Powers, Chairman
National Formulary Committee
American Pharmaceutical Association
2215 Constitution Avenue
Washington, D. C.

A NEW WASHABLE OINTMENT BASE

by N. F. SORG and J. W. JONES

COLLEGE OF PHARMACY, STATE UNIVERSITY OF IOWA

COMBINATION OF GLYCERYL MONOSTEARATE, DIETHYLENE GLYCOL, CETYL ALCOHOL, AND GLYCERIN PRODUCES A VELVETY, WHITE, STABLE VEHICLE THAT WILL SPREAD WELL AND WILL WASH OFF

OLEAGENOUS ointment bases have been used for many years with questionable results in many cases. They are difficult to remove from the skin, they do not permit the medication they contain to be liberated freely, and, in some cases, they actually inhibit the therapeutic effect of the substances so administered.

The work of some investigators (1,2) shows that certain therapeutic agents contained in such bases as lard, petrolatum, and anhydrous wool fat are not absorbed by the skin as readily as when these agents are contained in hydrotropic bases which hold several times their weight of water.

Numerous investigators, reporting on Ointment of Phenol, have proved that phenol has no antiseptic value when incorporated in the usual oily bases(3,4,5,6).

The purpose of this work was to prepare a non-oily, water-free base from which the therapeutic agent would be readily available for absorption or action on the area to which it is applied. The further purpose was to compare the antiseptic effectiveness of various substances when incorporated in such a base and in the corresponding official bases.

Among the synthetic products which are suitable for the type of base desired are the water-soluble waxes, hydrogenated sulfonated oils and fats. Each type of material presents certain disadvantages such as low melting point, undesirable consistency or stickiness and, therefore an attempt was made to prepare an emulsifiable type of base. Such a base would contain no

water and ointments made with it would not dry out. Several bases were prepared from varying proportions of glyceryl monostearate, cetyl alcohol and ethylene glycol.

THE RIGHT COMBINATION

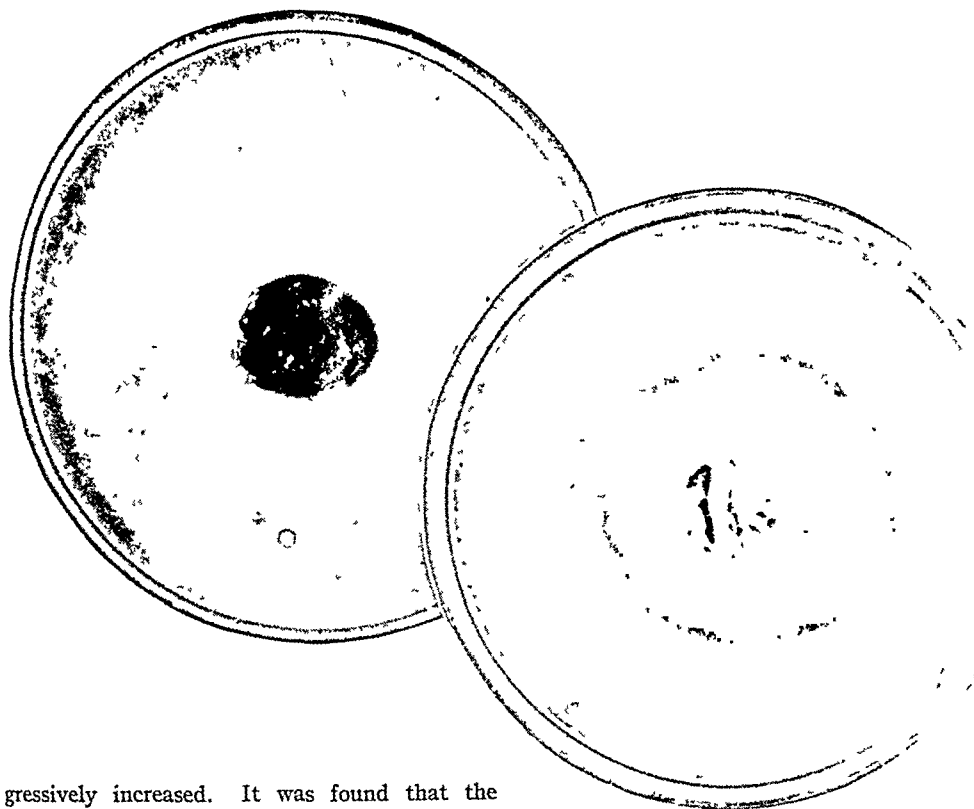
The first base studied was composed of 80 per cent glycerin, 15 per cent cetyl alcohol and 5 per cent glyceryl monostearate. The ingredients were heated to 90° C. in a beaker until melted, then stirred constantly with an electric mixture until cool. The resulting product had a velvety, white appearance, and was easily removed from the skin by washing with water. Ointments prepared with this base had good consistency, but were somewhat sticky when spread on the skin.

Since it was found impossible to determine the melting point of this type of base, it was tested for stability by heating it in a thermally controlled oven and observing the temperature at which separation occurred. The base was found to be unstable at 40° C.

In order to overcome the stickiness produced by glycerin in the base, ethylene glycol, propylene glycol, and diethylene glycol were used in the formula. The stickiness decreased in proportion to the amount of substitution, but the bases produced were less white and softer than the former one. The base containing propylene glycol possessed a peculiar liquefying effect when applied to the skin and was not considered further. Bases containing ethylene glycol and diethylene glycol were similar in appearance and washable properties. Ethylene glycol was chosen as the water-soluble phase of the next series of bases. In order to overcome the low-temperature breaking point shown in the first base, cetyl alcohol was substituted for a portion of the ethylene glycol, keeping the amount of glyceryl monostearate at 5 per cent. The results of this substitution showed that it was impossible to increase the amount of cetyl alcohol above 20 per cent without developing graininess due to the formation of crystals of the alcohol. It also showed that an amount of cetyl alcohol above 20 per cent caused the base to become too firm to spread well. Another series of bases was prepared in which the amount of glyceryl monostearate was pro-

A thesis presented in partial fulfillment of the requirements for the degree of Master of Science in the College of Pharmacy, State University of Iowa.

Presented before the Section on Practical Pharmacy, AMERICAN PHARMACEUTICAL ASSOCIATION, Detroit meeting, 1941.



The zone of diffusion of 2 per cent of amaranth in Simple Ointment, U. S. P., after 12 hours of incubation, is 1 mm. (left). The zone of diffusion of 2 per cent of amaranth in this new ointment base, after similar incubation is 17 mm. (right).

gressively increased. It was found that the breaking temperature of the base could be raised by this method, but bases containing 15 per cent of glyceryl monostearate were difficult to prepare uniformly and the bases became too dry for use when the amount was increased to 20 per cent.

A SATISFACTORY FORMULA

In an attempt to improve the uniformity in the preparation of the base, equal parts of diethylene glycol and glycerin were substituted for ethylene glycol. This base was more easily prepared than any previously made. It had a white, velvety appearance, spread excellently, washed off easily, did not develop graininess, and had a breaking temperature above 40° C. The formula for this base, which was used in all subsequent experiments, is as follows:

Glyceryl Monostearate	15 Gm.
Cetyl Alcohol	15 Gm.
Glycerin	35 Gm.
Diethylene Glycol	35 Gm.

The components were heated together until all the solid particles were melted. The mixture was then stirred slowly until cool.

This base was used in preparing several official and non-official ointments. Medicaments incorporated in the base included ammoniated mercury, boric acid, phenol, salicylic acid, sulfuric, tannic acid, zinc oxide, and a combination of zinc oxide and ichthammol. All ointments were of good appearance when freshly prepared, but on standing the ointments containing boric and salicylic acids became unfit for use. Tannic acid caused a slight softening of the base while the remaining medicaments used elevated the temperature at which the base separated.

MORE ANTISEPTIC

The ointments prepared with the new base were compared in antiseptic potency with the U. S. P. ointments containing the same per cent of medicament. A modification of the F. D. A.

Agar Cup Method as suggested by Li and Kuever (7) was used in the testing.

It was found that the ointments containing zinc oxide and sulfur produced no zone of inhibition using either the proposed or U. S. P. base. Ammoniated Mercury produced a wider zone of inhibition when incorporated in the proposed base than in the U. S. P. base. Ointment of Phenol showed marked antiseptic value when the proposed base was used, but none when prepared officially. Zinc oxide ointment containing 2 per cent of ichthammol showed an antiseptic effect when the proposed base was used, but none when the U. S. P. base for zinc oxide ointment was used. Tannic acid ointment showed much greater antiseptic potency when the new base was used.

GREATER DIFFUSION

When a medicament is incorporated in an oily base, its availability for action on the injured area might be limited. In order to test this theory, the following diffusion test was made. Two per cent of amaranth was incorporated in Simple Ointment, U. S. P., and in the new base. The Modified Agar Cup procedure was followed, except for the inoculation of the medium with *Staphylococcus Aureus*. After the plates had been incubated for twelve hours at 37° C. the area through which the dye had diffused was observed. The zone of diffusion in the new base was 17 mm. as compared to 1 mm. in Simple

Ointment. The comparative results are shown in the illustration on the previous page.

CONCLUSIONS

An ointment base composed of diethylen glycol, glycerin, cetyl alcohol, and glycery monostearate is non-oily, and is easily removed from the skin by washing with warm water.

The proportions of the ingredients must be carefully balanced to obtain a base that has the proper consistency and a breaking temperature sufficiently high to withstand summer storage conditions.

The base was found to be non-irritating when applied to the unbroken skin.

Ointments containing ammoniated mercury, phenol, tannic acid and zinc oxide with ichthammol showed a greater antiseptic potency when prepared with the proposed base than when the corresponding U. S. P. bases were used.

Water-soluble substances showed more rapid and greater diffusion *in vitro* when incorporated in the proposed base rather than Simple Ointment, U. S. P.

(1) Seoville, W. L., and Powers, J. L., "The Art of Compounding," Edition VI (1937).

(2) Army, H. V., "Principles of Pharmacy," Edition IV (1937).

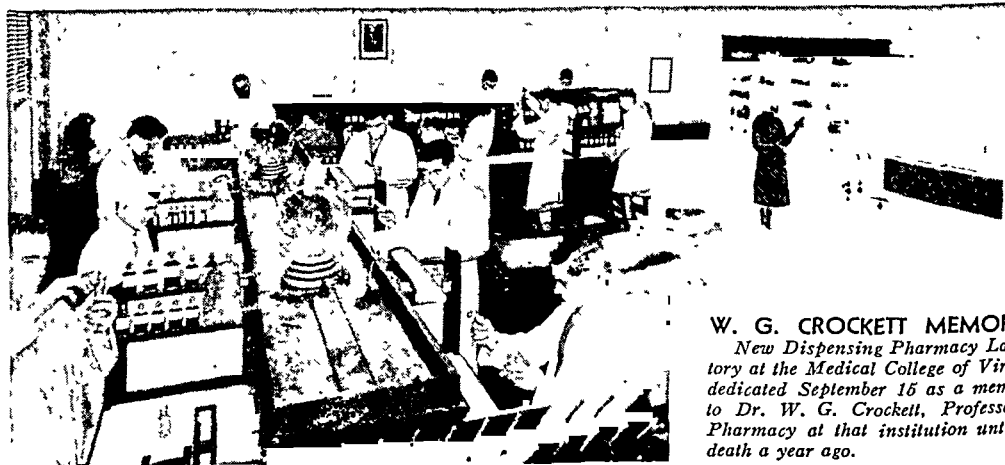
(3) Prout, W. A., and Strickland, M., *Jour. A. Ph. A.*, 26 (1937), 730.

(4) Reddish, G. F., and Wales, H. F., *Ibid.*, 18 (1929), 576-578.

(5) Bryan, A. H., *Ibid.*, 25 (1936), 606.

(6) Burnside, C. B., and Kuever, R. A., *Ibid.*, 29 (1940), 373-379.

(7) Li, P. L., and Kuever, R. A., *Ibid.*, 27 (1938), 1217-1221.



W. G. CROCKETT MEMORIAL
New Dispensing Pharmacy Laboratory at the Medical College of Virginia dedicated September 15 as a memorial to Dr. W. G. Crockett, Professor of Pharmacy at that institution until his death a year ago.

A. PH. A. PLANS TO CALL ALL-PHARMACY CONFERENCE SOON

STATE PHARMACEUTICAL ASSOCIATION SECRETARIES AND OTHER OFFICERS WILL BE INVITED TO WASHINGTON TO CONFER AND OBTAIN FIRST-HAND INFORMATION ON CURRENT PROBLEMS, A. PH. A. COUNCIL ANNOUNCES FOLLOWING MEETING TO ACT ON RESOLUTIONS AND THE RECOMMENDATIONS OF PRESIDENT CHRISTENSEN

EVERY state pharmaceutical association in the country will be invited to send its secretary, the editor of its journal, and other interested officers to a symposium on current problems facing the profession of pharmacy, to be held in Washington, D. C., early in 1942 under the sponsorship of the AMERICAN PHARMACEUTICAL ASSOCIATION, it was decided at a meeting of the Council, held at the AMERICAN INSTITUTE OF PHARMACY, Washington, D. C., October 4th and 5th, for the purpose of carrying out the actions recommended in resolutions approved by the Detroit meeting of the ASSOCIATION in August. The conference is the outgrowth of a recommendation of President Charles H. Evans, which was approved by resolution by the ASSOCIATION at its Detroit meeting last August, and has as its objective a frank discussion of certain national problems with which all pharmaceutical association officers should be fully familiar in order that each organization may coördinate the efforts of its members with those of other states and enable the profession as a whole to take more effective action in national affairs.

The past year has seen the development of many problems dealing with food and drug law interpretations, professional relations, selective service, civilian defense, and the present emergency on which the pharmacists of the country need careful guidance and the AMERICAN PHARMACEUTICAL ASSOCIATION recognizes the secretaries of the state pharmaceutical associations

and the editors of state journals as key individuals in supplying this guidance. Although the Conference of State Pharmaceutical Association Secretaries holds meetings in connection with annual conventions of the A. PH. A., its sessions are devoted largely to discussions of their own problems. It is believed that every state association will profit by sending one or more representatives to the forthcoming All Pharmacy Meeting, where they will have the opportunity to exchange views and obtain first-hand information on national problems, hear government officials who have these problems within their jurisdiction and participate in a free and frank discussion of the action which organized pharmacy should pursue.

The Council appointed a committee of three to prepare an agenda of current problems for discussion and, after the list of subjects is agreed upon and a satisfactory date has been determined, invitations will be issued to the state pharmaceutical associations.

EXEMPT NARCOTICS

The Council received the report of its representatives who, with representatives of the N. A. R. D. had conferred with Commissioner of Narcotics Anslinger in an effort to have Brown Mixture, Stoke's Expectorant, and Lead and Opium Wash classed as exempt narcotics under a proposed amendment to the Narcotic Act, now being sponsored by the Federal Bureau of Narcotics. The amendment at present contemplates the removal of exemption from all preparations except those containing one grain of codeine or less per ounce. Commissioner Anslinger expressed the opinion that if Lead and Opium Wash should be continued as an exempt preparation, it may be necessary to require records of purchases and sales. He agreed to make studies of the extent of use of the three preparations under discussion and base his decision concerning these preparations on the results of such investigation. (Note: The Bureau of Narcotics asked manufacturers and wholesale dealers in narcotic drugs for sales figures on these three preparations in a questionnaire mailed October 6th.)

STUDENT BRANCHES

The increasing interest of students of pharmacy in the work of the ASSOCIATION, as shown by the number of student branches organized during the past few years, was discussed at considerable length and President B. V. Christensen urged that the activities of these groups be integrated into a JUNIOR AMERICAN PHARMACEUTICAL ASSOCIATION. Such a plan would give student branches the benefit of an interchange of ideas and would represent an extension of the present program of developing the interest of students in association work. A special committee was appointed to direct a trial of the plan in one or two districts during the coming year. At a later session the committee decided to use the New York area and the middle west as the two districts.

N. F. REVISION

Dr. Justin L. Powers, chairman of the Committee on National Formulary, reported on the progress of revision of the seventh Edition which is expected to be available the latter part of December. Upon Dr. Powers' recommendation, the Council approved the issuance of Interim Revision Announcements to permit the substitution of Amaranth for Cudbear and Benzaldehyde for Oil of Bitter Almond in N. F. preparations, but a recommendation that the substitution of Extract of Stramonium for Extract of Belladonna Leaves be permitted in the formula for Hinkle's Pills was referred back to the N. F. Committee for further study.

The Council discussed the continuous revision program of the National Formulary and adopted the following resolution:

WHEREAS, the enactment of the Food, Drug and Cosmetic Act has made imperative more frequent revision of the standards of drugs and medicines, and

WHEREAS, the need for more frequent revisions has become clearly evident during the last decade because of the development of many new medicaments, and

WHEREAS, both the United States Pharmacopœial Convention and the AMERICAN PHARMACEUTICAL ASSOCIATION are committed to the revision and issuance of the United States Pharmacopœia and National Formulary, respectively, at five (5) year intervals, and

WHEREAS, the National Formulary will be

available in December 1941 and it is understood that the United States Pharmacopœia will be issued at approximately the same time, and

WHEREAS, this relatively early appearance of these compendia is conclusive evidence of the practicability and effectiveness of continuous revision, therefore, be it

Resolved, that in order to bring still greater efficiency and responsibility to the process of continuous revision of drug standards and actually to make it conform to a five (5) year schedule, the AMERICAN PHARMACEUTICAL ASSOCIATION through its Council has directed the Committee on National Formulary to maintain a program of revision which will assure the issuance of National Formulary VIII late in 1945, thereby permitting it to become official in 1946 And be it further

Resolved, that we reaffirm our belief that both the United States Pharmacopœia and the National Formulary should become official on identical dates and to this end the AMERICAN PHARMACEUTICAL ASSOCIATION bespeaks the fullest coöperation between the United States Pharmacopœia Committee and the Committee on National Formulary so that the revision of both books may proceed with uniform progress, thus permitting both the United States Pharmacopœia and the National Formulary to become official at the same time in 1946, this being advisable in the interest of the public, the allied medical professions and the drug law enforcement agencies both federal and state. And be it further

Resolved, that copies of these resolutions be forwarded to the Chairman of Revision of the United States Pharmacopœia, to the Chairman of its Board of Trustees and the President of the United States Pharmacopœia Convention.

INCREASED PERSONNEL

Action was taken by the Council to make effective the Resolutions passed at the Detroit Convention seeking to consolidate the activities of the ASSOCIATION by concentrating all editorial work at the Washington headquarters and providing an assistant to the Secretary.

Dr. Justin L. Powers, Chairman of the National Formulary Committee was named Editor of the Scientific Edition of the JOURNAL, effective January 1, and committees were appointed to act for the Council in the selection of an assistant to the Secretary and to confer on problems concerned with the employment of other office personnel.

HOSPITAL PHARMACISTS ORGANIZING

The Council received the tentative Constitution of the proposed National Conference of Hospital Pharmacists which is being formed as an outgrowth of the ASSOCIATION's Sub-Section on Hospital Pharmacy. The tentative Constitution with By-Laws to be submitted later, was referred to the Committee on Affiliated Organizations for study.

A. M. A.—A. PH. A. CONFERENCE

Progress of the Conference on Medical-Pharmaceutical Relations, to be held between the American Medical Association and the AMERICAN PHARMACEUTICAL ASSOCIATION, was discussed. Representatives of both associations are working out the plans for the meeting and details, including the topics to be considered, will be announced within the near future.

PHARMACISTS IN GOVERNMENT SERVICE

The Council received a report of a meeting held recently in New York City by representatives of the A. PH. A., N. A. R. D., A. A. C. P.,

and N. A. B. P., at which the status of pharmacists in the Army, Navy, and other governmental services was discussed and work started on a program to provide greater utilization of pharmaceutical services in the various branches.

OTHER ACTIONS

Dr. William L. Sampson, of the Merck Institute of Therapeutic Research, was named to the Sub-Committee on Bacteriological and Biological Preparations of the National Formulary Committee.

The assistance of the A. PH. A. was offered to state pharmaceutical organizations in combating attempts to lower educational standards in the profession.

Reports on ASSOCIATION matters were received from Secretary Kelly, including the announcement that the PROCEEDINGS of the 1940 and 1941 meetings will appear in the November issue of the Scientific Edition of the JOURNAL.

Certain other resolutions as, for example, one dealing with physicians' samples, were referred to the ASSOCIATION's delegates to the National Drug Trade Conference for discussion at its December meeting.

The two-day meeting was attended by 14 members of the Council and was under the gavel of Dr. Robert P. Fischelis, Chairman.

Justin L. Powers, has been named Editor of the Scientific Edition of the Journal, effective January 1, 1942. Dr. Powers was graduated by the College of Pharmacy, University of Michigan in 1919 with the degree of Ph.C., and served as Instructor in Pharmacy at Washington State College, until 1923, when he returned to Michigan to resume his studies. He received the degree of Bachelor of Science in 1924, taught for two years at the School of Pharmacy of Oregon State College, returned to Michigan and received his M.S. degree in 1927, and taught at Michigan until 1940, taking a leave of absence in 1935 to obtain his Ph.D. at the University of Wisconsin. In 1940 he became Chairman of the National Formulary Committee and Director of the Laboratories of the AMERICAN PHARMACEUTICAL ASSOCIATION.



Druggists' Digest

OF NEW FORMULAS, RECENT PHARMACEUTICAL DEVELOPMENTS, AND OTHER PROFESSIONAL DATA

DISADVANTAGES OF MINERAL OIL LAXATIVES

With the statement that "in some respects liquid petrolatum has earned its niche in the section of toxicology rather than in pharmacology," Dr. James W. Morgan, of the Department of Surgery, University of California Medical School, San Francisco, in the *Journal of the American Medical Association* for October 18, 1941 (117: 16, 1335-1336), warns that the use of mineral oil as a laxative has certain disadvantages which should be considered by physicians.

Dr. Morgan states that the use of mineral oil seems to be based on empirical considerations that make little sense when examined critically; its chemistry is uncertain; and its pharmacologic action is a matter of dispute, some saying it acts mechanically by softening the feces, others that it undergoes emulsification, and still others say it exerts an irritative action on the mucous membrane. He lists the following objections to the use of mineral oil:

1. It interferes with the normal physiologic process of defecation by destroying the competence of the rectosigmoid "valve" which then makes a reservoir for waste matter in the rectum rather than in the more proximal colon where ordinarily it may remain for some time without ill effect. The leakage of fecal matter into the rectum keeps this passage partially full most of the time with insufficient pressure to initiate the defecation reflex. The presence of this fecal matter in the rectum causes irritation.

2. When mineral oil is present in the rectum complete defecation is impossible; a mixture of oil and fecal matter always clinging to the rectal mucosa.

3. The ingestion of mineral oil interferes with the utilization of carotene, vitamin A, and fat-soluble vitamin D. These substances are soluble in mineral oil and when they come into intimate contact the vitamins are removed by the oil and

pass through the system without being absorbed by the body.

4. Mineral oil speeds up the passage of a meal through the small intestine and, as a result, digestion is incomplete. Thus, many persons who have taken mineral oil over a long period of time complain of indigestion. Many show alarming loss of weight and strength.

5. Mineral oil interferes with the healing of postoperative wounds in the anorectal region and may induce hemorrhage. It interferes with the formation of healthy granulation tissue and makes proper hygiene difficult.

6. Leakage of small amounts together with fecal matter from the rectum may be an indirect cause of *pruritus ani* and definitely delays the cure of this condition.

7. Evidence is accumulating that mineral oil may be absorbed, producing pathologic changes in the liver and other organs.

SULFATHIAZOLE OINTMENT IN CUTANEOUS INFECTIONS

Using a 5 per cent sulfathiazole ointment, Drs. E. L. Keeney, R. H. Pembroke, F. E. Chatard and J. M. Ziegler, of Johns Hopkins and Union Memorial Hospitals, Baltimore, have reported the treatment of 69 patients with various skin conditions.

As reported in the *Journal of the American Medical Association* the ointment consisted of 5 per cent of sulfathiazole in a base of equal parts of hydrous wool fat and vanishing cream. Dr. Keeney, in a personal communication to this JOURNAL, advises that since the article was written he has been using a new ointment base of Aquaphor and cold cream with more satisfactory

results. The new formula for the ointment is as follows:

Sulfathiazole.....	5.
Aquaphor.....	25.
Ung. Aquæ Rosæ.....	70.

Sift the sulfathiazole through bolting cloth, incorporate it in the Aquaphor, and incorporate the cold cream.

Eight children, ranging in age from 5 to 24 months, suffering from infected infantile eczema were treated successfully. In 6 of the 8 infants that received application of the ointment over half the body surface 3 times a day, the concentration of sulfathiazole in the blood ranged from 2.0 to 3.5 mg. per 100 cc. Two children did not absorb the drug in detectable quantities.

Sixteen children, 2 to 6 years of age, with infected eczema of the face, arms and legs were treated with the ointment 3 times a day. The infection was controlled but the eczema was unaltered. Treatment with a 5 per cent carbonis detergens ointment was substituted and 13 out of the 16 cases became reinfected. Five per cent of sulfathiazole was then incorporated in the carbonis detergens ointment and this preparation gave dramatic and persistent improvement in both the infection and the eczema.

Three children, age 22 to 36 months, with eczema involving the skin between the buttocks and the thighs, were treated with the sulfathiazole ointment each morning and night. The eczema disappeared entirely in 10 to 14 days and had not recurred after 2 to 3 months. It is believed that the bacteriostatic action of sulfathiazole makes it effective in the treatment of chronic irritation due to ammoniacal diapers.

A 58-year-old man with a chronically infected eczema of the leg, of 30 months' duration, was treated with the sulfathiazole ointment twice a day. The condition showed dramatic improvement in 7 days and was completely cured in 10 weeks.

A 17-year-old woman who had had an infected seborrhea of the scalp during the late spring and summer since she was 3 years old was told to remove the scabs every morning, apply the sulfathiazole ointment every morning and night, and to wash the scalp every other morning with metaphen soap. After 10 days of treatment the scalp was entirely well and has remained so with the application of the ointment once a day and

washing the scalp with metaphen soap once a week.

Five adult women with seborrheic dermatitis of the ears, of from 1 to 10 years' standing, were instructed to apply sulfathiazole ointment each morning and night to the auricles and to clean the external auditory canals, to the best of their ability, with a 5 per cent solution of sodium sulfathiazole. Dramatic relief was noted in 48 to 72 hours and the ears were well in 7 days. Treatment with the ointment at night was continued. Two of the patients who complained of intense itching were treated with sulfathiazole in a 5 per cent carbonis detergens ointment with great relief.

Twelve children with impetigo of the face, scalp or torso had the scabs removed every morning and the ointment applied each morning and night. Definite improvement was noted in 48 hours and in 7 days all the cases were cured.

Twenty nurses, aged 16 to 21 years, with acne were instructed to wash the affected parts every morning and night with soap and water and to apply the sulfathiazole ointment immediately. After 2 weeks 8 of the cases improved, after 4 weeks 2 more were improved, and after 10 weeks 13 in all were definitely improved. Five showed no improvement and 2 discontinued treatment.

Two patients with bacterial folliculitis involving the face applied the sulfathiazole ointment twice a day and in 2 weeks were greatly improved.

An adult patient with extensive furunculosis of both thighs following an operation for a rectal carcinoma was treated by having the furuncles covered with the ointment and the adjacent skin treated with the ointment 3 times a day. There was no further spread of the furunculosis and the furuncles present when the treatment was started immediately subsided.

Thirty-five patients with acute vesicular poison ivy dermatitis were treated with the sulfathiazole-carbonis detergens ointment and the lesions in every case healed without infection.

Thirty-three patients with cuts and 4 patients with small second-degree burns were treated with sulfathiazole ointment and the lesions of every one healed without infection.

The sulfathiazole ointment used in this study was prepared by Hynson, Westcott & Dunning, Inc., of Baltimore, and was developed as a preparation easily compounded by any pharmacist.

—*Jour. A. M. A.*, 117:17 (Oct. 25, 1941), 1415-

CHEMOTHERAPY OF INTESTINAL PARASITES

With the possible exception of atabrine in the treatment of giardiasis, no present-day drug is completely satisfactory for the removal of intestinal parasites, and no one drug is useful against both protozoa and helminths, according to Dr. E. C. Faust, of the Department of Tropical Medicine, Tulane University of Louisiana, School of Medicine, New Orleans. Dr. Faust lists the "drugs of choice" in the treatment of different infections, as follows:

AMEBIASIS

Chiniofon is his first choice; diodoquin is second; carbarsone is third. Enterovioform has had limited trial.

GIARDIASIS

Atabrine is apparently specific.

OXYURIASIS AND STRONGYLOIDIASIS

Gentian violet medicinal is the most satisfactory drug. In oxyuriasis a 4½-hour coating is recommended. One grain is given 3 times a day for 8 days, followed by a week's rest, and the dosage is repeated for 8 days. In strongyloidiasis a 1½-hour coating is recommended. One grain is given 3 times a day until 50 grains have been administered.

ASCARIASIS

Caprokol in hard gelatin capsules is his choice. Saline purgation before and after treatment is advised.

HOOKWORM

Tetrachlorethylene is his drug of choice. It should be preceded and followed by saline purgation. Caprokol is also satisfactory and is recommended for the treatment of small children, and aged or debilitated patients. Caprokol is his drug of choice in combined ascariasis and hookworm infections. Treatment with iron, blood transfusions, and a nutritious diet is recommended.

WHIPWORMS

There is no effective domestic anthelmintic against whipworms. Repeated administrations of tetrachlorethylene following saline purgation and enemas are recommended.

TAPEWORMS

Oleoresin of Aspidium is his drug of choice, with carbon tetrachloride second. Instead of the usual oral administration of the aspidium in divided doses, he suggests the transduodenal intubation of a suspension of 4 cc. of the drug in 30 cc. of mucilage of acacia and 30 cc. of a saturated solution of sodium sulfate.

—*Jour. A. M. A.*, 117:16 (Oct. 18, 1941), 1331-1335

MORE ON SULFATHIAZOLE OINTMENT

Drs. W. M. Sams and L. Capland, of the Department of Dermatology and Syphilology of Dade County Hospital, Kendall, Florida, report the use of 10 per cent sulfathiazole in cod liver oil ointment in the treatment of common skin conditions such as impetigo and related ecthyma and pyoderma.

The crusts are removed at the first treatment and sulfathiazole powder is blown on the moist lesion. The patient is told to remove the crusts twice a day by applying the ointment for several hours. When soft, the crust is removed with soap and water and a small amount of sulfathiazole powder applied to the moist areas with a cotton applicator toothpick.

The cod liver oil ointment, to which 10 per cent of sulfathiazole is added, is made as follows

Paraffin Wax.....	10
Petrolatum Alba.....	70

Melt together and allow to cool without agitation. After cooling add 8 drops of Upjohn's concentrated Super D Cod Liver Oil to each ounce of base.

—*Arch. Derm. & Syphil.*, 44:2 (Aug. 1941), 226-231

A NEW ENTERIC COATING

A new enteric coating for tablets which depends, not on time or pH factors, but on their

fatty acid composition which is not digested by the gastric juice but forms a diffusible suspension with paired salts of sodium taurocholate and sodium glycocholate and disintegrates in the intestinal tract, has been developed by P. V. Maney and R. A. Kuever, of the College of Pharmacy, State University of Iowa, Iowa City, Iowa. The formula of the new coating is as follows:

Myristic Acid.....	68
Opal Wax.....	25
Castor Oil.....	2
Cholesterol.....	1
Sodium Taurocholate.....	4

(Opal Wax is E. I. du Pont de Nemours' hydrogenated castor oil)

The coating, kept warm at 50° C., may be applied in the ordinary manner using special precautions to build a coating of uniform thickness. No dusting powder is necessary. Hot and cold air are desirable to evaporate the solvent and harden the application. A number of applications are necessary to bring the coating up to the desired thickness.

Tablets so coated were found to remain in the stomach for as long as six hours and to disintegrate within two hours after entering the intestines.

—*Jour. A. Ph. A. (Sci. Ed.)*, 30:10 (Oct. 1941), 276-282

BRITISH CUT STRENGTH OF MINERAL OIL EMULSIONS

Acting on the advice of the Therapeutics Requirements Committee of the Medical Research Council and the National War Formulary Committee that "an emulsion containing 25 per cent of liquid paraffin is as effective as the pure oil," the British Ministry of Health is issuing an order limiting such emulsions to this strength. Mineral oil is one of the substances on which strict economy must be observed at present in Great Britain.

—*Pharm. Jour.*, 147:93 (Sept. 30, 1941), 107

CLOTHING AND COMFORT

Differences in clothing are the major reason why a room temperature that is comfortable to a

man is too cool for a woman, according to C. P. Yaglou and A. Messer, of the Department of Industrial Hygiene, Harvard School of Public Health, Boston. As a result of this double standard most buildings are overheated in winter for the sake of women and over-cooled in summer for the sake of men.

Experimenting with healthy men and women, dressed in normal attire, in an air-conditioned room, the authors made the following observations:

1. A temperature of 72° F, a relative humidity of 30 per cent, and an air movement of 20 feet per second was comfortable to men but too cold for women. To make women comfortable the temperature had to be raised to 76° F.
2. When men and women wore similar clothes they were comfortable at about the same temperature.
3. Comfort is associated with mean skin temperatures of 91.5° F to 93.5° F in both men and women. The mean skin temperature of women averages one-half a degree lower than men's under comfortable conditions.
4. If women would dress in winter with clothes comparable in warmth to men's clothes, they would be comfortable at a temperature of 72° F.
5. If men would take off their vests, coats, and collars in hot weather they would be comfortable at 83° F instead of 76° F to 80° F as at present.

MERBROMIN ACCEPTED FOR N. F. VII

The disodium salt of 2,7-dibrom-4-hydroxy-mercurifluorescein has been accepted for inclusion in N. F. VII under the title "Merbromin" by the Committee on National Formulary of the AMERICAN PHARMACEUTICAL ASSOCIATION. This chemical was introduced by Hynson, Westcott and Dunning, of Baltimore, under the proprietary name "Mercurochrome" and the patent on its preparation expires on April 21, 1942.

The new edition of the National Formulary will include standards for the chemical itself, for a 2 per cent aqueous solution, and for a 2 per cent surgical solution of the chemical in water, acetone, and alcohol.



Raising Digitalis for the Navy at the School of Pharmacy of the University of Minnesota during World War I.

PHARMACY THROUGH FIVE WARS

by JOHN E. KRAMER

REGISTRAR, PHILADELPHIA COLLEGE OF PHARMACY AND SCIENCE

EVERY ARMED CONFLICT OF THE UNITED STATES HAS LEFT ITS SCARS ON THE PROFESSION AS IT HAS ON OTHER CALLINGS, BUT PHARMACY RESPONDS TO EACH SUCCEEDING "CALL TO ARMS" AND TO-DAY IS BETTER PREPARED TO RENDER NEEDED SERVICES THAN EVER BEFORE

THE mutiny of the thirteen original States against the homeland, starting in 1775, had little or no effect upon pharmacy for the simple reason that pharmacy, in any shape resembling the profession as we know it to-day, was non-existent then. With hardly an exception physicians wrote and dispensed their own prescriptions, with the slight help of an apprentice or two who, after compounding the evil messes prescribed by their employers for five or six years, might start off on their own in the healing arts. There was no supervision or organization of medical or pharmaceutical practice. It was merely "catch as catch can" curing, featuring such potions as boneset for consumption, catmint tea for colic, and using calomel, ipecac, jalap, and tartar emetic as purges. Asthma was treated by ordering the

patient to smoke jimson weed. External cancers were plastered with pokeberries. Bloodletting was almost a cure-all. Superstition and credulity were rampant, as tales of ailments and remedies passed from person to person and from doctor to doctor.

Transportation being what it was in those days, wartime emergencies exerted no undue restrictions on the use of drugs. Most of the medicaments were local in nature, easily gathered and prepared, and, therefore, little could be missed through any lack of communication and trade with other parts of the world.

REVOLUTIONARY PHARMACISTS

However, above the hopelessly nondescript group of so-called professional people, a few names do stand out. One is that of Hugh Mercer, pharmacist, physician, Indian fighter, frontiersman and Revolutionary general. Adviser to General Washington in his apothecary shop in Fredericksburg, Va., Mercer was one of the few professional men of his time who realized what it meant to have fresh supplies of drugs at hand, and, despite the furor of the war, he insisted on securing a renewed stock of drugs from England every six months. As you know, the AMERICAN PHARMACEUTICAL ASSOCIATION has recently acquired the Hugh Mercer Apothecary

Presented before the Section on Historical Pharmacy, AMERICAN PHARMACEUTICAL ASSOCIATION, Detroit meeting, 1941.

Shop intact. It is a fitting shrine to all that pharmacy might have been in the days of the Revolution.

Another famous pharmacist of the time was Christopher Marshall, appointed by the newly organized American government to look after the medical needs of the Colonial soldiers stationed in Philadelphia. This was quite an honor, in view of the number of physicians in the city. Congress, too, gave additional recognition, little as it was, to pharmacy, for, in appointing various positions in hospitals being erected to take care of the 20,000 men in the army, the director-general and the chief physician were authorized to receive \$4.00 per day, and the surgeons and the apothecary were ordered remunerated at the rate of \$1.34 per day.

Probably the greatest benefit given pharmacy and medicine by the strife and turmoil of the Revolution was the recognition by medical men in charge of the hospitals of the need for a formulary or a book of standards. As a consequence, a 32-page, all-Latin pharmacopœia, the first in America, was compiled in Lititz, Pa., by the physician-general of the continental hospital located there, and it was printed later in Philadelphia "for the use of the military hospitals belonging to the Army of the United States of America." Replicas of this unique booklet are available now at the A. PH. A. headquarters in Washington.

THE WAR OF 1812

The War of 1812, again between the United States and Great Britain, found little change in the status of pharmacy since the days of the Revolution, and, therefore, it had about as much effect on the profession. The results of Dr. John Morgan's revolutionary idea in 1765 to have doctors write prescriptions and have pharmacists compound them was still being pondered over without any wide-spread immediate acceptance. The Academy of Natural Sciences, the first natural history society in the New World, was founded in that year by a far-seeing Philadelphia pharmacist and a few friends. The manufacture of pharmaceutical chemicals was being started in that same city. But the principal scientific advances in pharmacy, such as the discovery of iodine, the isolation of the alkali metals and alkali-earth metals, and the devising and the application of the principle of percolation were

being made in Europe. Pharmacy in our country was at about its lowest ebb.

THE CIVIL WAR

By the time of the Civil War, when the United States was rent asunder for four long years from 1861 to 1865, pharmacy had redeemed itself somewhat. The first college of pharmacy in the country, in Philadelphia, had been conducting courses of study for apprentices for 40 years, and other colleges had come into being to follow suit. For nine years the AMERICAN PHARMACEUTICAL ASSOCIATION had been having annual conventions to carry out the original call to advance the true interests of the great body of pharmaceutical practitioners in all sections of the country under a code of ethics calculated to elevate the standard and improve the practice of their art. But the meeting of 1861, to have been held in St. Louis, was postponed due to "the disturbed condition of the country."

The prospect of a military draft reduced greatly the attendance at the 1862 meeting, those delegates who did attend coming from the northern portion of the nation. The War was pinching the pocketbooks of both sides, for the literature of the times describes a falling off of subscribers to pharmaceutical journals, and the absolute collapse of many publications. Prices of drugs, too, went up, and we can imagine quite some difficulty in the cotton situation, a commodity needed especially in war times. Rumors flew far and wide on both sides of the conflict, especially as to the high prices and scarcities in drugs in the enemy's territory. Denials, however, were promptly and mutually issued.

PHARMACISTS ASK RECOGNITION

An interesting commentary in the *American Journal of Pharmacy* for February 1862 is quoted here. "Occasionally, for many years past, apothecaries have been employed on some of our naval vessels to facilitate the duties of the surgeon; but from the fact that no rank attaches to the position, we are told, it is but little sought after, as the 'Surgeon's mate' is socially ill situated on ship-board. We are not aware that the apothecary has heretofore been employed in the medical department of the 'regular' army of the United States. The immense extension of this service at the present time has caused in many of the volunteer regiments the employ-



In Fredericksburg, Va., is the apothecary shop of Hugh Mercer, Revolutionary general and friend of George Washington. Established in a day when pharmacy was practiced by a hopelessly non-descript group of so-called professional people, this shop is a fitting shrine to what pharmacy might have been in that period. The shop is preserved by the Friends of Historical Pharmacy, Inc., affiliated with the AMERICAN PHARMACEUTICAL ASSOCIATION.

ment of apothecaries, especially in the regimental hospitals. The vital importance of an efficient and intelligent service in dispensing aid and medicines both on the battle field and in the general and camp hospitals is so self-evident that it will undoubtedly claim the attention of the proper authorities. To make this service more effective, it should be separated sufficiently from that of the surgeon to give a distinct standing and rank to the pharmacist, as in the French army, with clearly defined duties, that his proper self-respect, and ambition to be eminent in his sphere, may have ample room for display. Unless such an arrangement can be made, it is not probable that the better class of graduates in Pharmacy would seek positions of this kind."

It is interesting to note also the demeanor of the pharmacists toward the War, as evidenced in the call to the 1863 A. P. H. A. meeting: "The aspect of the political horizon, though not favorable to our next meeting, will, we trust, become more encouraging long before that period arrives. The members will do well to proceed with their investigations and get their papers ready, so that when the meeting convenes, there will be something to engage its attention. We know how prone men are to be attracted from their ordinary duties by the occurrence of such events as are now happening near us, yet, while prepared to do our duty as citizens, we should not forget that our duty as pharmacists is to sustain our National Association."

Manufacturing pharmacy during the Civil War was taken over by the government so far as products for army use were concerned. In a laboratory in Philadelphia, under the supervision of an army doctor and a college professor, ether, sweet spirit of niter and chloroform were manufactured, pills of many descriptions were made, morphine and quinine were prepared, and "great economy attended the experiments." Most of the work was performed by girls but a few graduate pharmacists were also employed. A similar laboratory, at Astoria, Long Island, was destroyed by an accidental fire in 1865, at a loss of about \$50,000, the chief items burned being opium, ipecac, calisaya bark, and cubebs.

Medical supplies in the Army of the North were described in detail in the April 1865 issue of the *American Journal of Pharmacy*, and it is interesting to note that our old army friends, iodine and epsom salt, were greatly in evidence even then, as were such miscellaneous items as cupping glasses, spittoons and, of all things, an obstetrical kit. A medical hospital pharmacy is also described, and the drug room seemed quite in keeping with the times. Pharmacists were employed by contract, twelve of them to a 3600-bed hospital, with a usual turnover of about 800 prescriptions per month. It was observed by the editors that no such gigantic military pharmaceutical operations had ever been carried on before, either in this country or in Europe.

Despite the domestic difficulties of internal warfare, and the demand by both armies for pharmaceutical service, pharmacy as a whole seemed to prosper during the Civil War. Exchange of materials and information with other countries continued, the A. PH. A. held increasingly successful conventions, and the key journals appeared regularly, replete with pharmaceutical knowledge not tintured by the military. The colleges held classes regularly, even though enrollments were somewhat restricted. All of this recorded activity found by your reviewer was, however, in the North, but it is assumed that somewhat similar activities, albeit on a lesser scale, continued in the Confederate States. The close of hostilities must have been welcome to all who were enamored of their profession, for a Re-United States paved the way for better conditions of practice with careers unhampered and unhindered by stringent wartime restrictions and the possible call to arms or service in the medical corps.

SPANISH-AMERICAN WAR

Of relatively short duration, and not affecting the productive systems or the terrain of either of the participating countries, the Spanish-American War of 1898 was felt by pharmacists the least of all this country's major conflicts.

There was, however, an interesting development in the tax situation and its relation to products handled by the druggist. As was to be expected after a precedent established in the War of the Revolution and renewed during the War of 1812, the Civil War and even during minor emergencies, the country's Congress adopted a Spanish-American War Revenues bill which was signed by the President on June 13, 1898. Backed by the pharmacists and the pharmaceutical press as the logical means of collecting money to defray the expenses of the fight, the act taxed, among other things, cosmetics and medicinal proprietary articles and preparations at the following rate:

Articles retailing at 5 cents	$\frac{1}{8}$ of 1 cent
Articles retailing at 10 cents	$\frac{1}{4}$ of 1 cent
Articles retailing at 15 cents	$\frac{3}{8}$ of 1 cent
Articles retailing at 25 cents	$\frac{5}{8}$ of 1 cent
Articles retailing over 25 cents	$\frac{5}{8}$ of 1 cent
for each 25 cents or fractional part thereof	

Such taxes were collected by having the retailer attach to each package of a taxable commodity a stamp of the proper denomination. The pharmacist, of course, paid for the stamps as he purchased them from a government office.

As witness to the fact that the Act worked wonders in the matter of raising revenue, we note an editorial in one drug journal just five months after the issue in which the same editor had endorsed the bill. The second writing pointed out that hostilities were practically over and that the United States Treasury had, chiefly as a result of the tax stamps used, "the enormous available cash balance of \$300,000,000." (Remember, this was in 1898, not 1941.) Accordingly, it was urged that this revenue act, which seemed to impose more than a just share of responsibility and hardship on the druggists and their customers, be repealed forthwith.

WORLD WAR I

World War I was most profound in its far-reaching effects upon American pharmacy. There

were war taxes on merchandise, drug imports were restricted, man power was depleted and various normal scientific activities were hampered. All of the evils of the past wars, and new ones, were inflicted on this country's professional people during the years from 1914 to 1918.

At the outset of the conflict, before America became involved, the only repercussions were evidenced in reduced shipments of crude drugs from other parts of the world. The German U-boat campaign was effective, and, as the war progressed, reserve stocks of pharmaceuticals from abroad became smaller and smaller until, in 1918, wide-spread experimentation was under way in the United States to determine the best methods for the domestic cultivation of such drugs as belladonna, digitalis, hyoscyamus, aconite, and others. It was soon found, unfortunately, that this could not be done as easily as had been predicted, for European growing conditions could not be fully matched in this country, and, in addition, there were so many intangibles necessary for the economic cultivation of crops that most ventures were not successful financially even though they did succeed in replenishing some few waning stocks.

To add to the burdens of those using crude drugs, shipments that did survive the transatlantic voyage were notoriously dirty and adulterated.

Research workers in the United States devoted much time to working out formulas for the use of saccharin and other substances as substitutes for sugar, a very scarce commodity. Glycerin was another pharmaceutical item on the list of rarities, and many substitutes were suggested with some being used successfully.

So great were the changes in pharmaceutical practice due to the scarcity of materials, the Committee of Revision of the U. S. P. was authorized to prepare and issue a supplement at any time they might deem such action desirable or necessary.

As was to be expected, costs of all drug items rose, reflecting noticeably in prescription prices.

When War was declared between the United States and Germany, men from all walks of life rushed to the colors, pharmacists in the forefront. The draft helped deplete the ranks of those at home rendering professional service to the general public. Students in the colleges of pharmacy and those about to enter upon their studies were more than anxious to serve their country in the armed forces, causing a great re-

duction in the number qualifying for service at home. One college of pharmacy reported that one-sixth of its students and alumni left their domestic occupations for service in the Nation's name.

Many brave pharmacists who volunteered or who were called to duty never returned, and the profession is proud of those who made the great sacrifice.

It was at that time that women were urged most strongly to study pharmacy, and their response was most encouraging, for they made able substitutes for those at the front or in the various military units elsewhere.

Who among those who were on the scene at the time can forget the great "flu" epidemic that taxed the strength and endurance of every physician and pharmacist just when professional ranks at home were at a minimum? The loyalty of the men and women who carried on in the face of such handicaps was equal to that of the men who were in the service.

World War I brought the first organized effort to have pharmaceutical prestige recognized by



The Stabler-Leadbeater Apothecary Shop, in Alexandria, Va., in which Robert E. Lee received his orders to proceed to Harper's Ferry. The shop is preserved with the cooperation of the AMERICAN PHARMACEUTICAL ASSOCIATION.

the armed forces, which were only too pleased to utilize the pharmacist's services to the utmost, but would not advance him in rank. The justness and need for such recognition was proclaimed by the professional journals and the A. Ph. A., but the seriousness of the emergency prompted them merely to list the needs, urge the establishment of a Pharmaceutical Corps in the United States Army, and let it go at that without attempting to worry the government authorities with something that was deserving, but not urgent.

However, it should be observed that the pharmacist who served as such with the army or the navy, practiced a profession quite unlike that of civilian life. Some even called it "canned pharmacy," and the ramifications and amplifications were admittedly not very great. In fact, the navy trained its own pharmacists in a short period of three months, and these men were able to perform their duties satisfactorily. The government never did get around to formal recognition of pharmaceutical service, so far as rank was concerned, during that war.

Pharmacists were again charged with the task of affixing tax stamps to packages of merchandise, but it was gladly done, efficiently and conscientiously.

Much of the testing of those pharmaceutical products used by the government in war service was done by the faculties and in the laboratories of the colleges of pharmacy, a gratuitous service that saved our Treasury many dollars.

The War, naturally, had some effect upon the progress of pharmacy in its general public health endeavors. That is to say, their activities were restricted a bit due to loss of man-power, and thoughts were turned toward wartime items. Beyond that, scientific work progressed apace, with accent on the domestic cultivation of drug plants and suitable substitution items. Stress was also laid on the development of better and more efficient antiseptics for use in military hospitals and on the battle field. Much experimentation was done here on the Carrel-Dakin and similar solutions, and a paraffin film for the dressing of burns received much attention.

But it was to the satisfaction of everyone in the profession that, when most other sciences were devising ways and means of destroying human life, pharmacy and medicine were straining to the *n*th degree to develop better methods for the conservation of human life and the return to health

of those shot down and injured or made ill through the machinations of the gods of war.

WORLD WAR II

The rigors of the present World War II, even though the United States has not yet become embroiled in actual fighting, have already been felt by those practicing pharmacy and those utilizing its services. And it is almost uncanny how the difficulties of 1941 parallel those of 1914-1918.

Drug imports are once more on the wane, and again we hear the cry that American growers should make a declaration of independence in so far as crude drugs are concerned. But we are taking leaves from the diaries of 24 years ago and study is being given any domestic growing project before wide-spread activity is started. The botanical brains of the country should, however, be able to profit by past experience and make this country self-sustaining. The only difficulty about such an idea is that in all probability, just as it happened before, as soon as this self-sustaining program gets well under way, hostilities will cease and the natural preference for drugs from their own habitat will assert itself. But that remains to be seen.

A bit different from World War I is the fact that, since we are not actually in the war, not quite so many pharmacists and students are enlisting for active military duty. A goodly number have signed up with the armed forces and are serving admirably as pharmacists at the various military camps, naval hospitals, in the sanitation corps, and other places. The draft, too, has taken its share of young men from professional practice. But students in colleges of pharmacy have been given deferments and are being allowed to continue in their education, for governmental authorities have recognized the fact that a drafted pharmacy student is just another soldier, so to speak, while a student allowed to remain in college is a potential factor soon to be available for maximum service in military pharmacy or in public health work.

Thanks to the Committee functioning under the aegis of the A. Ph. A., pharmacists are, for the first time, receiving just and due recognition by the army, and it is possible for men in that service to obtain the ranking of second lieutenant should their service and their merit warrant such promotion. In the navy, too, a pharmacist may rise to non-commissioned officership.

The place of pharmacy in military medicine has also advanced since the last war. Army and navy physicians are using a more diversified list of drugs and chemicals, and, due to the fact that the men in the service are not in actual combat, medical endeavors now are as much preventive as curative. Despite rumors to the contrary, and in face of unsatisfactory and uncompleted housing accommodations that recently greeted a huge untrained army of selectees taken from civilian life in the middle of winter, the physicians and pharmacists to whom they were entrusted have done a good job. It must be remembered that every man in the service is referred to the hospital for the most trivial illness that would go unnoticed or home-treated in ordinary life, and thus he becomes a "sick statistic." Even so, illness and mortality rates in camps and on board ship are below those in most municipalities.

The newer medicaments such as the sulfa-drugs, the vitamins, the serums and the anti-toxins are helping in the never-ending army and navy fight against pain, sickness and disease, and the service officials owe much to the researchers who developed these modern medicines.

SHORTAGE OF PHARMACISTS

Even though this present threat of war is not drawing pharmacy's young life blood as thoroughly as was the case in the preceding struggle, the withdrawal of so many men from professional life now, combined with the fact that more rigid restrictions in college have decreased enrollments, is causing a definite shortage of qualified and registered pharmaceutical help, more so in certain parts of the country than in others. While the shortage is not yet acute, it is working some hardship, especially on the owners of one-man stores who cannot secure adequate relief. Some observers are of the belief that this will eliminate a great number of the "marginal" stores, the owners of which are living from hand to mouth and are contributing nothing to pharmacy or public health as a whole. If this eventuates, the shortage will be a good thing, and will permit better working conditions within the field, thus affording better service to the public. Whatever the outcome, there must not be any lowering of the requirements for entrance into the profession, for this would undo all the work of the colleges and the associations in deliberately planning,

in the face of one of the worst depressions in the history of the country, to raise entrance and graduation requirements to bring about, eventually, just the condition that is coming into existence now. The advent of the war scare and the transfer of so many pharmacists into military duty has simply hastened the day to which so many level-headed, clear thinkers looked forward some fifteen years ago.

As before, more and greater opportunities are being cast toward properly qualified women in the field, and we are sure that they will take advantage of them and deport themselves well. They always have.

Again, costs of drug commodities are rising, slowly but surely, yet the prices of prescriptions to the public have not been affected tremendously. It is sincerely hoped that this will not eventuate, and it is also hoped that druggists will not be forced to start sticking tax stamps on merchandise. Yet, it must be conceded that some means must be conceived to raise the revenue necessary to carry on our defense and armament program. If pharmacists can coöperate, they may be counted upon to do so to the best of their ability but the tax collectors have learned much in past years, especially during the late lamented depression, and they have probably ascertained that it is much easier to collect taxes at source, rather than have every merchant on every corner act as a government agent.

PHARMACY RESPONDS

As has been indicated, every major armed conflict entered into by the United States has inflicted some hardships upon the professions, ever as it has upon every other calling and every other person in the country. But the healing arts taxed to capacity under normal conditions, are called upon to serve even more in times when people are wounded, maimed, overworked, and worried.

In every emergency so far in the history of this glorious country of ours, pharmacy has responded beautifully and beyond reproach, and it is doing so again and may be expected to continue to do so if world conditions so dictate, for, fortunately the profession is in better condition for such service now than it has ever been before—in organization, in scientific background, in willingness and in general morale.

PHARMACY WEEK WIDELY OBSERVED

THREE RADIO ADDRESSES OVER NATION-WIDE SYSTEMS CARRY STORY OF PHARMACY TO MILLIONS DURING WEEK

FROM all reports the seventeenth annual observance of National Pharmacy Week was the greatest in the history of this event. In addition to innumerable local radio addresses heard in all sections of the country, three leaders of pharmacy, Dr. B. V. Christensen, President of the AMERICAN PHARMACEUTICAL ASSOCIATION, Dr. C. Leonard O'Connell, Dean of the University of Pittsburgh College of Pharmacy, and Dr. Hugo H. Schaefer, Dean of the Brooklyn College of Pharmacy of Long Island University, broadcast messages to the American public over the nation-wide facilities of the major broadcasting systems.

President Christensen, speaking over the Columbia Broadcasting System on Friday, October 24th, said, in part:

"From time immemorial and by all classes of people drugs and medicines have been used to assist nature in the alleviation of pain and the cure of sickness and disease. These drugs and medicines when properly prepared and administered in the correct doses are boons to mankind but when improperly prepared or administered in large doses become dangerous poisons and may permanently injure the health or even cause the death of the individual who takes them. Again, experience and practice has demonstrated that it is frequently advisable to mix two or more drugs in order to bring about a more effective relief or a more rapid cure than could be obtained from one alone. Here, again, it is essential that this compounding process be performed in the right manner to produced the desired results. In many cases if the mixing process is not carried out in the correct manner a dangerous product may be formed or the effect of the drugs may be neutralized so that the patient is either harmed or gets no relief from the medicine.

"The pharmacist is thoroughly trained in the science and art of properly preparing and compounding drugs and medicines and putting them up in the right dosage for the individual patient for whom they are intended. It is because it was recognized years ago how essential it is to the well-being and protection of the public that the people be

guaranteed a safe and efficient pharmaceutical service that laws were enacted restricting the practice of pharmacy to properly qualified persons. The result is that the pharmacist of to-day must be a graduate of a recognized college in which he has successfully mastered courses in botany, bacteriology, physiology, pharmacy, pharmacognosy, pharmacology, and pharmaceutical chemistry. He must have served an apprenticeship where he has learned directly from the experienced pharmacist and has performed many of the practical operations of the pharmacist under careful supervision. Then he must pass examinations—vigorous tests administered by State Examiners. Hence, the modern pharmacist is prepared to meet the exacting demands which present-day conditions require in the field of drugs and medicines. Your pharmacist is prepared to properly compound the medicines you may require and to provide you with pure and effective drugs dispensed in the correct dosage. The pharmacist is the drug expert in your community.

"Life often depends on the knowledge and skill of the pharmacist. The fine art of the pharmacist



The role of pharmacy in the field of public health was discussed by Dean C. Leonard O'Connell over the Red Network of NBC.

is more than the mere mixing of ingredients. It is the art of preparing, preserving, compounding and dispensing of medicines based on a thorough knowledge of the fundamental scientific principles involved and the multiplicity of skills and techniques required. He must know the purity of every ingredient he uses; he must know the action of each medicament he dispenses and he is legally charged with the responsibility to see that the amounts prescribed by the physician are correct. The lives of his patrons are in his hands.

"Pharmaceutical service is becoming more wide spread and it is becoming better year after year

Medicines are not as difficult to take as they were fifty years ago. They are put up in convenient, attractive and palatable form. Every year our medicines become more elegant and more attractive in appearance and more effective in their medicinal qualities. This progress indicates that the pharmacist is keeping pace with changes and advances in the scientific field and is applying these in modifications of his practice. All of these make medical treatment more effective than ever before and the health of the nation is regularly improving. It is inconceivable how the nation could get along without the pharmacist."

IN THE NEWS

Dr. George D. Beal, Assistant Director of the Mellon Institute of Industrial Research, Pittsburgh, will receive the Remington Medal for 1941 at a testimonial dinner tendered in his honor by the New York Branch of the AMERICAN PHARMACEUTICAL ASSOCIATION on December 4, 1941, at the Hotel Pennsylvania, New York City. Frank J. Pokorny, 115 West 68th Street, New York, N. Y., is chairman of the committee arranging the dinner.

Dr. John N. McDonnell, Assistant Professor of Pharmacy at the Philadelphia College of Pharmacy and Science, and editor of the *American Professional Pharmacist*, has accepted appointment as head of the Health Supplies and Drug Division of the Bureau of Research and Statistics of the Office of Production Management, Washington, D. C.

Hugh P. Beirne, newly elected President of the National Association of Retail Druggists, will be tendered a testimonial dinner by the Connecticut Pharmaceutical Association at the Seven Gables Inn, Milford, Conn., on November 11th.

Dr. Paul J. Jannke is directing the study of sclerosing agents at the University of Nebraska School of Pharmacy under a grant of the AMERICAN PHARMACEUTICAL ASSOCIATION, instead of Dr. Joseph B. Burt, as reported in this JOURNAL for September.

William M. Bristol, Jr., Vice-President and Director of Bristol-Myers Company, New York City, has been appointed chief of the Health Supply unit of the Purchasing Division of the Office of Production Management, Washington, D. C.

Dr. F. A. Gilfillan has been appointed acting president of the Oregon State College, Corvallis, Ore. Dr. Gilfillan was graduated by the School of Pharmacy of that institution in 1918 and received the degree of Doctor of Philosophy from Yale University in 1921. He has had several years of drug store experience and was connected with the Calco Chemical Company for one year. He served as Professor of Pharmacy at the University of Florida for two years and has been a member of the faculty of the School of Pharmacy of Oregon State College for fourteen years. In 1938 he was appointed Dean of the School of Science of that institution, which comprises all of the departments of the physical and chemical sciences on the campus.



DR. F. A. GILFILLAN

"A Hospital Pharmacy without a Registered Pharmacist Is Like an Operating Room without a Surgeon" was the title of an interesting exhibit of the New Jersey Board of Pharmacy at the recent meeting of the American Hospital Association, held in Atlantic City, N. J. The exhibit pointed out the requirements for registration as a pharmacist, the functions of the Board of Pharmacy, the requirements of the American College of Surgeons with respect to hospital pharmacies, and the advantages of proper pharmaceutical service to a hospital.

OBITUARY

WILLIAM PERRY PORTERFIELD

William P. Porterfield, of Fargo, N. D., Honorary President of the AMERICAN PHARMACEUTICAL ASSOCIATION 1940-1941, died on October 9th at Harrisburg, Pa. He was 85 years of age.

Mr. Porterfield was born in Martinsburg, W. Va.; he was educated under a private tutor and later was graduated by the Philadelphia College of Pharmacy and Science. He was engaged in the practice of pharmacy in Fargo until 1912. He had served as president of the North Dakota Pharmaceutical Association; a member of the North Dakota Board of



WILLIAM P. PORTERFIELD

Pharmacy for 23 years, serving as its president for the last two; president of the National Association of Boards of Pharmacy, and a member of its executive committee. He served in the North Dakota State Senate and was a member of the Fargo Park Board for thirty years.

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THE RELATIVE VALUE OF NATURAL AND ARTIFICIAL GUMS

by GEORGE E. OSBORN and H. G. DEKAY

PURDUE UNIVERSITY, SCHOOL OF PHARMACY

SODIUM ALGINATE OR METHYL CELLULOSE MAY BE USED IN ALMOST ANY PHARMACEUTICAL PRODUCT WITHOUT DECREASING VALUE OF THE PREPARATION

MUCILAGES are thick, viscid, adhesive liquids or semi-solids produced by dissolving a gum in water or by extracting with water the mucilaginous principles from vegetable material. The natural gums are a peculiar class of bodies which occur as the juices or in the juices of plants. Some gums dissolve completely in water; others merely hydrate and swell in water; and still others are almost completely insoluble. The mucilages obtained from gums are physically and chemically stable, but they are subject to mold growth and require the use of preservatives.

This study was undertaken with the following purposes in view:

1. To determine from which of the natural gums pharmaceutically useful mucilages could be obtained.
2. To make a comparative study of the applications of the mucilages in the manufacture of various pharmaceutical preparations.
3. To study the effects of certain preservatives in the mucilages.

Recently, new substances whose water solutions exhibit mucilaginous properties have been introduced into professional and industrial pharmacy. Two of the substances, namely, sodium alginate and methyl cellulose, were considered at length in this study.

SODIUM ALGINATE

Algin (alginic acid) and sodium alginate were first studied by Stanford (1, 2, 3, 4), who ob-

tained algin by macerating the long fronds of *Laminaria stenophylla* in sodium carbonate, filtering and precipitating the alginic acid in the filtrate by adding hydrochloric acid. Stanford then prepared sodium alginate simply by dissolving the alginic acid in sodium carbonate. These two products are, at present, prepared analogously. Lunde, Heen and Öy (5) purify alginic acid by treating it with alcohol or hydrochloric acid. They purify sodium alginate by washing it with alcohol or ether.

Sodium alginate can be dissolved in water in concentrations up to five per cent to produce true solutions, semi-mucilages and transparent gels. Solutions containing one per cent sodium alginate have a viscosity of about 1000 CPS at 17° C.; at a concentration of five per cent an immobile gel is formed. The mucilage is most easily prepared by suspending the powdered gum in sufficient glycerin and adding hot or cold water to that mixture with continuous stirring.

The addition of calcium ions to the mucilage in the form of slurried calcium citrate results in a thickening effect from the precipitation of calcium alginate as a jelly. All metallic ions, other than those of the alkalis, magnesium, and ammonium, behave in a manner similar to calcium. Aside from this effect, the sodium alginate mucilage is compatible with salts of alkali metals, proteins, gums, soaps, starches, sugars, soluble oils, glycerin, ethylene glycol, and wetting agents.

The mucilage must have a preservative added to it to prevent decomposition by fungal, bacterial and fermentation processes which cause a complete deterioration of the mucilage (6).

METHYL CELLULOSE

Although methylated cellulose has been known in organic chemistry for a number of years, it was not until recently that its pharmaceutical applications were conceived. According to a British patent (7) methyl celluloses are produced by treating semi-moist alkali cellulose at below 10° C. with dimethyl sulfate. The ethers thus obtained yield soluble products when they are

An abstract of a thesis submitted to the faculty of Purdue University by George E. Osborn in partial fulfillment of the requirements for the degree of Master of Science, June, 1941
Presented before the Section on Practical Pharmacy, American Pharmaceutical Association, Detroit meeting.

suspended in aqueous sodium hydroxide, cooled to below 0° C., and then thawed.

Mucilages of methyl cellulose are prepared most rapidly by mixing the methyl cellulose fibers with about half the required quantity of water which has been brought to boiling temperature. This mixture is allowed to macerate for about half an hour, and the remaining water is added either as cold water or as ice.

Mucilages of methyl cellulose are stable over a long period of time and require no preservative; however, the methyl cellulose has no preservative action attributed to itself.

The mucilages are compatible with alkalis and with dilute acids, including boric, phosphoric, acetic, citric and tartaric acids, but they will not tolerate tannic or phosphotungstic acids. They are compatible with aqueous solutions of soaps, water-soluble resins and with most wetting agents. They can be blended with aqueous dispersions of starch, glue, casein, dextrin, and water-soluble gums.

Methyl cellulose can be coagulated from its aqueous solution by saturated solutions of many salts, including the sulfates, chlorides, and nitrates. Heating will cause gelatinization, but cooling returns them to their original smoothness and fluidity.

In order to obtain a comparative study, mucilages were attempted with as many gums as it was possible to obtain. They were prepared, where possible, according to established formulas. The mucilages which were selected for further study were those of Acacia, Chondrus, Karaya, Okra, Pectin, Quince, Tragacanth, Sodium Alginate, and Methyl Cellulose.

Each of these mucilages was incorporated into several series of preparations, and their effects in those preparations were noted.

VEHICLES IN HAND LOTIONS

(a) *Translucent Type*.—The mucilages were incorporated in emollient hand lotions, containing alcohol-soluble oils and gums. Usually quince seed mucilage or a mucilage of tragacanth of low concentration is employed for this purpose.

(b) *Saponifying Type*.—In order to investigate the possible saponifying properties of the mucilages, they were employed in a formula containing almond oil and free stearic acid.

(c) *Saponified Type*.—In this series, the almond oil and free stearic acid were saponified with triethanolamine, and the mucilage then acted only as a vehicle for the resulting soap.

Table I shows the summary of the results obtained in each of the foregoing preparations.

EMULSIFYING AGENTS

The emulsifying properties of the mucilages were tested in emulsions of liquid petrolatum and cod liver oil; in each case quantities of the oils were emulsified with identical quantities of the mucilages. Samples of each preparation were homogenized, and the effects of homogenizing were noted.

Table II shows a summary of the results obtained in each emulsion.

SUSPENDING AGENTS

The mucilages were used to suspend the zinc oxide-calamine combination found in the official

TABLE I—GUMS AS VEHICLES FOR HAND LOTIONS

Value as A	Vehicle for Translucent Type	Saponifying Agent	Vehicle for Saponified Oil
Acacia	Good	Fair	Separated
Chondrus	Separated	Unsatisfactory	Good
Karaya	Good	Unsatisfactory	Thick
Okra	Unsatisfactory	Unsatisfactory	Fair
Pectin	Very good	Unsatisfactory	Good
Quince, 2.0%	Very good	Unsatisfactory	Very good
Quince, 3.0%	Very good	Unsatisfactory	Very good
Tragacanth	Thick	Fair	Thick
Sodium alginate, 0.5%	Separation	Unsatisfactory	Thin
Sodium alginate, 1.0%	Separation	Unsatisfactory	Very good
Sodium alginate, 2.0%	Separation	Unsatisfactory	Very good
Methyl cellulose 15 CPS, 5.0%	Very good	Unsatisfactory	Very good
Methyl cellulose 15 CPS, 10.0%	Thick	Fair	Thick
Methyl cellulose 1500 CPS, 1.0%	Thin	Unsatisfactory	Very good
Methyl cellulose 1500 CPS, 5.0%	Thick	Unsatisfactory	Thick

(N. F. VI) calamine lotion and to suspend kaolin in a concentration of 20%. Suspension was obtained simply by trituration.

Table III is a summary of the results obtained from the suspensions.

GRANULATING AGENTS

Lots, to make 500 five-grain aspirin tablets, were granulated with each of the mucilages studied, and observations were made on granulation, on sieving, on compression, and on disintegration. In each step of the manufacture, the batches were graded (progressively downward) from "A" to "D."

Table IV indicates the comparative grades given for each mucilage to each section of the manufacture of the tablets.

NON-GREASY OINTMENT BASES

At the present time, there is an ever-increasing demand for non-greasy, water-soluble ointment bases. Since it was observed that the artificial gums resulted in very thick, sometimes semi-solid mucilages, a series of experiments was carried out to determine the concentrations of these gums necessary to produce bases of the consistency of ointments.

The concentrations, which will vary with both external and internal conditions, should be somewhere between the following limits:

(a) Sodium alginate	5.0% to 7.5%
(b) Methyl cellulose	
15 CPS	15.0% to 20.0%
(c) Methyl cellulose	
1500 CPS	10.0% to 15.0%

These bases are compatible with most of the ingredients which are used in the official ointments.

The effects of temperature were noted. In most cases an increase in temperature had little effect except to decrease slightly the viscosities of the mucilages. Mucilages of methyl cellulose were coagulated by high temperatures.

Light had no effect on any of the mucilages.

PRESERVATIVES

1. Formaldehyde (0.1%) was used throughout the study to preserve the mucilages. This preservative was entirely successful, but could only be recommended for use in preparations intended for external use.

2. Mucilages of methyl cellulose require no preservatives.

3. Para-hydroxybenzoic acid esters were recommended anonymously (7); and two of these esters, namely, benzyl-para-hydroxybenzoate and *n*-propyl-para-hydroxybenzoate in concentrations of 0.1% were studied and found to be successful in each case.

SUMMARY AND CONCLUSIONS

1. Results of this study indicate that mucilages from prepared and artificial gum sources are of equal pharmaceutical value to mucilages prepared from gums of natural sources.

2. Several drugs commonly called "gums" contain little or no water-soluble principles.

3. The mucilages studied were employed in the following pharmaceutical preparations:

As vehicles in various types of hand lotions.

As saponification agents.

As emulsifying agents.

As suspending agents.

As granulating agents (in tablet manufacture).

As moistening agents for pills.

As ointment bases.

(a) The official mucilages, those of acacia, tragacanth and chondrus, resulted in pharmaceutically acceptable preparations which make them worthy of inclusion in the Pharmacopoeia and National Formulary.

(b) The other mucilages from natural gums which were studied were in most respects inferior to the official mucilages.

(c) In almost every case of pharmaceutical manufacture, it was possible to substitute a mucilage prepared from an artificial source for one prepared from a natural source without decreasing the pharmaceutical value of the preparation.

4. The mucilages of quince seed and sodium alginate were, of those studied, the most susceptible to incompatibility with the reagents tested; the official (U. S. P.) mucilages and those of karaya and methyl cellulose were the most stable to incompatibility with the reagents tested.

5. Formaldehyde (0.1%) acts as a preservative for the mucilages studied; or esters of para-hydroxybenzoic acid (0.1%) have excellent preserving powers when they are used in these mucilages.

TABLE II—GUMS AS EMULSIFYING AGENTS

	Liquid Petrolatum		Cod Liver Oil	
	Not Homogenized	Homogenized	Not Homogenized	Homogenized
Acacia	Creamed	Good	Very good	Very good
Chondrus	Creamed	Separated	Creamed	Good
Karaya	Fair	Fair	Fair	Fair
Okra	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory
Pectin	Separated	Good	Separated	Separated
Quince, 2.0%	Separated	Separated	Separated	Separated
Quince, 3.0%	Separated	Separated	Separated	Separated
Tragacanth	Good	Good	Separated	Separated
Sodium alginate, 0.5%	Separated	Separated	Separated	Separated
Sodium alginate, 1.0%	Separated	Separated	Separated	Separated
Sodium alginate, 2.0%	Separated	Separated	Separated	Separated
Methyl cellulose 15 CPS, 5%	Very good	Very good	Very good	Very good
Methyl cellulose 15 CPS, 10%	Very good	Very good	Very good	Very good
Methyl cellulose 1500 CPS, 1%	Separated	Separated	Separated	Separated
Methyl cellulose 1500 CPS, 5%	Separated	Separated	Separated	Separated

TABLE III—GUMS AS SUSPENDING AGENTS

	Suspension	
	Calamine	Kaolin
Acacia	Very good	Good
Chondrus	Unsatisfactory	Unsatisfactory
Karaya	Unsatisfactory	Unsatisfactory
Okra	Unsatisfactory	Unsatisfactory
Pectin	Good	Very good
Quince, 2.0%	Separated	Separated
Quince, 3.0%	Separated	Separated
Tragacanth	Thick	Thick
Sodium alginate, 0.5%	Good	Fair
Sodium alginate, 1.0%	Good	Fair
Sodium alginate, 2.0%	Good	Fair
Methyl cellulose 15 CPS, 5%	Good	Good
Methyl cellulose 15 CPS, 10%	Good	Good
Methyl cellulose 1500 CPS, 1%	Very good	Very good
Methyl cellulose 1500 CPS, 5%	Very good	Very good

TABLE IV—GUMS AS GRANULATING AGENTS

	Disinte- gration			
	Granulation	Sieving	Compression	
Acacia	B	B	A	A
Chondrus	C	C	B	B
Karaya	A	A	A	A
Okra	D	C	B	A
Pectin	B	B	B	C
Quince, 2.0%	D	D	C	B
Quince, 3.0%	D	D	C	B
Tragacanth	C	C	B	D
Sodium alginate, 0.5%	C	D	B	A
Sodium alginate, 1.0%	B	B	A	D
Sodium alginate, 2.0%	C	B	B	A
Methyl cellulose 15 CPS, 5%	C	C	B	B
Methyl cellulose 15 CPS, 10%	B	B	B	D
Methyl cellulose 1500 CPS, 1%	A	A	A	A
Methyl cellulose 1500 CPS, 5%	C	B	A	D

lages. Mucilages of methyl cellulose require no preservative.

- (1) Stanford, E. C. C., "Algin and Sodium Alginate and Their Economic Uses," *Am. Druggist*, 13 (1884), 146
- (2) Stanford, E. C. C., "On Algin," *J. Soc. Chem. Ind.*, 3 (1884), 277.
- (3) Stanford, E. C. C., "On Alginic Acid and Its Compounds," *Ibid.*, 5 (1886), 218.

- (4) Stanford, E. C. C., "Alginoid Iron and Some Other Alginoids," *Pharm. J.*, 61 (1898), 199.

- (5) Lunde, G., Heen, E., and Øy, E., "Studies of Alginic Acid," *Kolloid-Z.*, 83 (1938), 196; through *Squibb Abstr. Bull.* 11 (1938), 1048.

- (6) Anon., "Sodium Alginate," *Drug and Cosmetic Industry*, 42 (1938), 109.

- (7) Craik, J., Rubenstein, and Imperial Chemical Industries, Ltd., "Methyl Cellulose," *Brit. Pat.* 416,590 (Sept. 18, 1934); through *Chem. Abstr.*, 29 (1935), 1245.

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A table gives the form in which prescriptions are called for, supplying information relative to the needs of the prescription department and prevent overbuying and unnecessary purchases.

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*Practical
Pharmacy
Edition*

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Editorial

WHAT YOU CAN DO TO HELP

ON DECEMBER 7th the enemies of freedom, democracy, and our "way of living" declared war on this country and attacked our Pacific possessions. At this writing 90 per cent of the population of the world in which we live is engaged in the hostilities.

This is a fight for our very existence as a free people, and every man and woman in the country is being called upon to pitch in and help. Perhaps the deciding factor between victory and defeat, our freedom or bondage, will be whether we as individuals in a democracy, working without compulsion, can effect a unity of purpose and effort that will surpass that of our enemies who are working under the whip of totalitarianism.

From now on we of the profession of pharmacy have no problem or objective except that of doing everything within our power to help this country win this war. Let's drop everything else.

What can you do to help?

CIVILIAN MORALE

This war will be won by the efforts of clear thinking, level-headed men and women who allow nothing to rob them of their efficiency and capacity to contribute time, thought, and energy to their jobs. War-jitters, fed by gossip and rumor, disrupt the civilian population and cut in half its productive ability. You can't do your best work if you are emotionally upset, mentally befuddled, and panicky.

The enemy knows this and wages a war of nerves as well as a war of actual combat. If the enemy can break down the civilian morale of the country by circulating rumors or even by token bombings, the war is half

won. And, unfortunately, our democratic system in providing us with the freedom of love has given others the opportunity to capitalize on the opportunity to plant an abundant supply of fifth columnists in our midst to conduct the war from within. Their job is to start wild rumors designed to put fear into our hearts, spread gossip to upset our confidence in those who lead us, and create fantastic tales to make us panicky.

The war of nerves can be defeated if those in whom the public has confidence will "debunk" gossip and rumors and provide the reassurance necessary to stabilize their emotions. This is a task for you—the neighborhood pharmacist—in whose word the public has the greatest respect. You are the man to whom your community has looked for advice since the first day you opened your doors. You are the man who gets out of bed at 3:00 A.M. to fill prescriptions when illness strikes suddenly; the man who drove fifty miles to the city to get serum and an oxygen tent when a patient had pneumonia; the man who kept open twenty-four hours a day during the flu epidemic; the man who suspected appendicitis when Mr. Brown asked for a box of laxative pills for his stomach pains and got him promptly under the care of a surgeon who operated at once and saved his life; the man whose prescription files trace the history of the community.

The confidence of the public has always been the most important requisite of the successful practice of pharmacy. You have spent years developing this close relationship with your customers; now is the time to put it at the service of your country. A word from you will reassure the scores who enter your doors daily.

Those who lead the Army and Navy of this country have made it their life's work. They studied tactics and maneuvers when you were studying incompatibilities and structural formulas. They have spent years in training for just exactly the work they are doing now. Neither you nor anyone else in your community knows what American brains and skill have developed in equipment and methods for war. More than that, we won't know until the war is won exactly how it was done. Necessarily the Army and Navy must cloak their moves with the utmost secrecy, but don't misinterpret lack of information as lack of action. Discount any and all "inside stories" you hear—those who are in a position to know what is going on are not talking in confidence, or "off the record." When a customer tells you he has been told something "on good authority," don't start an argument but point out that from your knowledge of affairs it is impossible for any one to have such confidential information. Urge him not to believe it nor to spread stories which are unsubstantiated. You are justified in telling him that no one really comprehends the tremendous power and strength of this country's air, land, and sea forces.

Make it a point to read your newspaper and listen to your radio critically. Learn to differentiate from the stories which are "reported" or "unconfirmed," and those which are official and dependable. Let your customers realize that you are right up-to-the-minute on facts but that you put no weight on rumor.

Remember the "Men from Mars" broadcast a few years ago that had people panic-stricken, leaving their homes, driving through stop lights, and frantically seeking refuge from a fantastic invasion? It's funny now, but it wasn't the night it happened. Make "Remember the Men from Mars Broadcast" your key phrase in discounting unfounded rumors and in instilling confidence in your customers. You can be a pillar of strength in your community if you will serve your country in this manner.

CIVILIAN DEFENSE

The services, facilities and personnel of retail pharmacies should be utilized in the Civilian Defense program. There is going to be a need for civilian defense work whether or not there is an actual invasion or widespread bombing of this country. In the last war ammunition plants and defense supply factories were sabotaged with loss of life and the infliction of injuries to hundreds. We may expect sabotage again and on an even wider scale. You are members of one of the public health professions to whom humanity looks for aid in physical distress. Every pharmacist in the country must stand shoulder to shoulder with the physician and nurse in the relief of suffering and the saving of lives in the event of a catastrophe.

Elsewhere in this issue are the recommendations prepared by the U. S. Office of Civilian Defense for State Defense Councils outlining some of the more important services and facilities of pharmacies which may be utilized. It is up to your State Pharmaceutical Association to work out the details of the particular plan to be used in your State and it is up to you to put that plan in operation when it is developed.

CIVILIAN HEALTH

It is estimated that an average of one week's work is lost through illness by every working man each year. The total lost time due to illness of workers is enough to build fifty-two battleships—it is the equivalent of the full time work of a million men. Much of this illness is preventable if it can be nipped in the bud if the individual would take greater pains to prevent illness and, if it does strike, will obtain competent medical care promptly before the disease gets the upper hand.

Here, again, the pharmacist is a key man. Through window displays, newspaper advertising and the distribution of public health literature, he can conduct a dynamic, effective, "keep well" program in his community. In his daily contacts with cus-

tomers he can preach the gospel of keeping well; of not taking a chance with a cold, a backache or persistent headaches; of not neglecting any minor ailment which might develop into a serious illness.

Most persons take their colds, their aches and their pains to the neighborhood pharmacist for advice first. Great has been the effort of pharmacists to convince the public that only a physician is competent to diagnose disease and that the pharmacist's job is the compounding and dispensing of medicines. However, the public's habits are not easily changed, and they still go to their neighborhood pharmacy for "something for a cold." *Unwise self-medication, always discouraged by pharmacists, should now be strenuously opposed.* Customers with colds, coughs and odd aches and pains which are often forerunners of serious conditions should be directed to physicians. It's the pharmacist's patriotic duty to help keep every man and woman mentally alert and physically fit for his job this winter.

Use "It's Patriotic to Be Healthy" as your theme for window displays, newspaper advertisements, and over-the-counter advice to your customers.

CONSERVE SUPPLIES

Pharmacists have experienced shortages of many drugs during the past year. Not only may this situation be expected to become more general and, in some cases, more acute, but commodities other than drugs may be at a premium. Wrapping paper, for example, will undoubtedly be increasingly hard to obtain. It is the part of wisdom to conserve as much as possible. Do not destroy cardboard displays and boxes for this material can be reprocessed and used again; sell or give it to the groups in your community who are collecting it. Do not waste corks, glass bottles, or other supplies. No one knows as yet just where the greatest shortages will occur, so don't waste anything.

Do not get upset over shortages of drugs. Some drugs, of course, are absolute necessities in that there is no satisfactory substitute for them, and these items are receiving first consideration by the governmental agencies of production management and civilian supply. Some drugs, although important, can be replaced by other drugs with similar action if it should become necessary. There are scores of drugs with anodyne action, laxative action, sedative action, etc., so there will be no great hardship if a few specific items in each class should become unobtainable. The Laboratory of the AMERICAN PHARMACEUTICAL ASSOCIATION at the AMERICAN INSTITUTE OF PHARMACY in Washington, D. C., is keeping in touch with the situation and it will recommend substitution when and if they become necessary.

War, for years a possibility, is now a grim reality. It will be a happy day when once again our biggest problems will be how to discourage physicians from dispensing, how to label products under the Food, Drug and Cosmetic Act, and whether a visible prescription department is preferable to an entirely closed one. But these matters are of little significance in comparison with our real problem of to-day, that of pooling our hearts and hands to achieve a victory which will permit us to live as free men.

In a democracy such as ours you are asked, as individuals, to volunteer your services in bolstering civilian morale, in aiding civilian defense, in protecting civilian health, and in conserving supplies. Under a totalitarian government you would be ordered to do these things.

This war is a test of the democratic system against the totalitarian system. Can this country, depending upon your voluntary support, achieve the unity of effort of its citizens that the Nazi governments secure from its people by force? Will you as a pharmacist rise to meet the challenge? Whether or not you do, and the same applies to every other American citizen, will be a deciding factor in this fight for our very existence.

OCD ISSUES RECOMMENDATIONS TO PHARMACISTS IN CIVILIAN DEFENSE

**YOUR COMMUNITY NEEDS
YOU IN ITS PLANS FOR
THE PROTECTION OF
LIFE, VOLUNTEER YOUR
SERVICES WITHOUT DELAY**

AS war struck the United States early in December, the necessity of developing practical, effective plans for the protection of civilian life and property became immediately apparent. Pharmacists were as ready as any, and better prepared than many, to assume their full share of responsibility in the task of rendering emergency aid and assistance to their communities. Weeks before war was actually declared the pharmacists of some states had developed specific plans with their Civilian Defense authorities to utilize the services, facilities, and personnel of their pharmacies in the work and other states had such plans in the process of development. All over the country pharmacists were taking first aid courses to bring their knowledge up-to-date.

In other states, Defense Councils had not yet begun to function and no specific plans had been developed for medical services, air raid warnings, volunteer police and fire squads or other community protection. Developments in the Pacific, however, stirred the country to move quickly and from all sections came reports of action.

As stated in the October issue of this JOURNAL, the actual development of Civilian Defense Plans is being undertaken by State Directors and the operation of such plans will be handled largely by individual cities, counties, and communities. These plans will vary somewhat dependent upon local conditions and needs.

Dr. George Baehr, Chief Medical Officer of the U. S. Office of Civilian Defense, prepared a list of eight general recommendations for State Defense Councils at work with state pharmaceutical associations on plans for the utilization of the services, facilities, and personnel of pharmacies.

Dr. Baehr stressed that space limitations and the large amounts of glass in pharmacies make them unsuitable sites in which to administer first aid.

The Medical Division of the Office of Civilian Defense has developed a basic plan for rendering medical services by physicians, nurses, and volunteer first aid workers. It is important that pharmacists do nothing that might confuse the public in regard to the procedure which has been worked out. Under the organized Emergency Medical Service hospitals are used as the basic unit. When an incident occurs, the Commander of the Control Center will direct the Emergency Medical Squads to man their designated Casualty Stations, and from these stations Emergency Medical Teams will go to the scene of the incident to set up First Aid Posts. The medical and nursing personnel of the First Aid Post examine injured persons, give emergency first aid treatment, and see that the most severely injured are given priority transportation back to the hospital. Slightly injured persons are sent back to the Casualty Station where they receive appropriate treatment and are kept under observation until they can be sent home or to places of temporary shelter.

It is important that the public understand that in an emergency the place to obtain first aid treatment is the official First Aid Post or Casualty Station, not the pharmacy. It is hoped that all pharmacists will become proficient in first aid procedures so that they can leave their pharmacies in charge of a competent employee while they go out as members of first aid squads operating between Casualty Stations, First Aid Posts, and the scene of the disaster.

In further emphasis of the important job of educating the public to go to First Aid Posts and Casualty Stations, Dr. Baehr recommends that pharmacies avoid the use of any Civilian Defense designation which would confuse the public concerning the location of these units.

Dr. Baehr's recommendations take cognizance of the important part the pharmacist can play in the Civilian Defense Program by making his pharmacy a center for the dissemination of authentic information to the public concerning the location and character of protection facilities in the neighborhood, shelters, wardens' posts, etc., and for the distribution of hand bills, booklets, etc., to instruct the public on what to do in an emergency.

He recommended that the pharmacy's stock of drugs, medicines, surgical, and sick room supplies be kept constantly replenished; that Chiefs of the Emergency Medical Services be kept aware of the available supplies in pharmacies; that the pharmacy's delivery trucks be registered for emergency transport; and that the

pharmacy's telephone and refuge facilities be listed.

In every state, county, city, and community pharmacists should volunteer their services to Civilian Defense in accordance with the plans developed by their State Defense Councils in cooperation with their state pharmaceutical associations

TEXT OF DR. BAEHR'S RECOMMENDATIONS

December 15, 1941

MEDICAL DIVISION MEMORANDUM NO. 7

SUBJECT: Recommendation to Pharmacies by the Medical Division of the U. S. Office of Civilian Defense

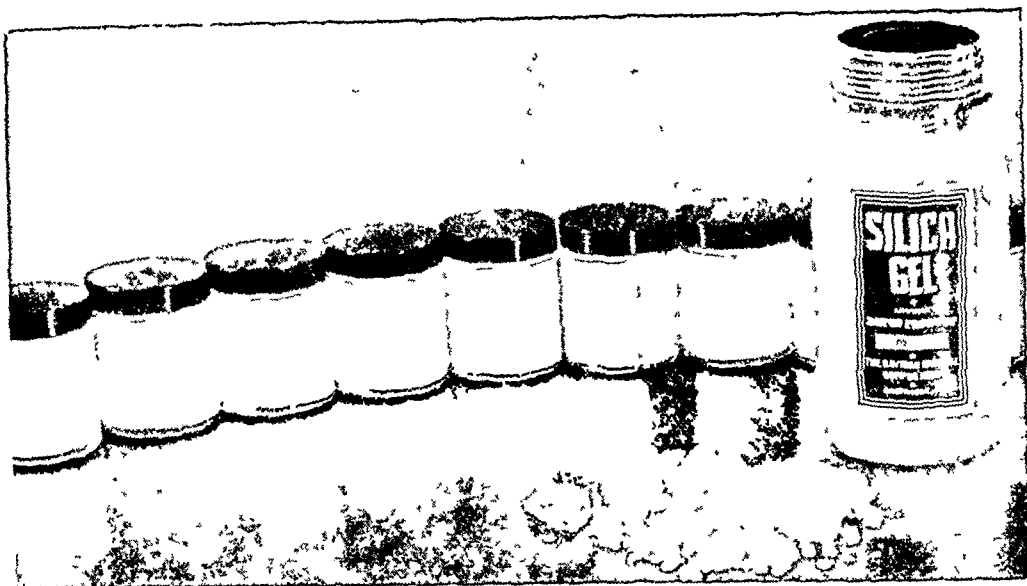
Large amounts of glass and space limitations make pharmacies unsuitable sites for Casualty Stations and First Aid Posts. Pharmacies are readily accessible in every community, are open during the greater part of the day and evening and are visited frequently by members of the community. They are admirable sites for the dissemination of information.

The stock of drugs, medicines, surgical, and sick room supplies available for purchase in every pharmacy should be kept constantly replenished.

What each pharmacist should do:

1. Register with the Chief of Emergency Medical Service in his community, indicating the supplies he has available.
2. If he has a delivery truck available for emergency transport, register it with the transport office of the local Defense Corps.
3. Register his pharmacy with his air raid warden, indicating the telephone and refuge facilities he has available.
4. Place his services at the disposal of the local defense council for distributing hand bills, displaying placards and other information on Civilian Defense.
5. Inform himself of the organization, location, and character of protection facilities in his neighborhood so that he can direct citizens to shelters, wardens' posts, casualty stations, and first aid posts.
6. Review and extend his own training in first aid and prepare himself to instruct others in his employ.
7. Large pharmacies should establish a First Aid Detachment among their employees which can be immediately available as a Stretcher Team to assist the Rescue Squads in the extrication of casualties from demolished buildings and transport them to the First Aid Posts of the Emergency Medical Service. For this purpose, it is advisable that pharmacies be equipped with a stretcher and with first aid supplies.
8. It is important that pharmacies avoid the use of any Civilian Defense designation which would tend to confuse the public concerning the location of Casualty Stations and First Aid Posts of the Emergency Medical Service. Injured persons should obtain care at official stations of the Emergency Medical Service or from their private physicians.

GEORGE BAEHR, M.D.,
Chief Medical Officer,
U. S. Office of Civilian Defense



THE USE OF HYDROGEL IN OINTMENT BASES

by WILLIAM A. PROUT and RHETT G. HARRIS

SCHOOL OF PHARMACY, MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA

SILICA GEL SEEMS TO ACT AS A SOLID EMULSIFIER IN PRESENCE OF WATER AND OLEAGINOUS SUBSTANCES. OINTMENTS OF 2% PHENOL AND 10% BORIC ACID IN SUCH BASES ARE ANTISEPTIC

THE employment of silica gel as an excipient for ointments (1) and also as an effective carrier for certain antiseptic medicaments (2) has been investigated and reported. Further studies have been carried out during the past year in an attempt to determine the manner in which such a substance as silica gel promotes the antisepticity of medicated ointments. It also appeared desirable to produce, if possible, an ointment base utilizing silica gel (Hydrogel*) which might prove practicable as well as acceptable from a pharmaceutical standpoint.

Presented before the Section of Practical Pharmacy, A Ph A, Detroit meeting, 1941

*Furnished through the courtesy of the Davidson Chemical Corporation, Baltimore, Md

It has already been shown in this laboratory (3) and also by Reddish and Wales (4), Craw and Lee (5), Gershenfeld and Miller (6), and possibly others, that such antiseptic medicaments as phenol, boric acid, sulfur and zinc oxide, when incorporated in any of the ordinary oleaginous bases have failed to exhibit any bacteriostatic and bactericidal effects when tested by the Agar Cup-Plate Method (7), using *Staphylococcus aureus* as the test microorganism. It was for this reason, then, that these medicinal substances were chosen as the test agents in this investigation.

The problem resolved itself primarily into a study of the water-retention properties of ointments containing hydrogel. The role of water in ointments is an important one, as has been pointed out by Lesser (8). The incorporation of water in sufficient quantities into an oleaginous base necessitates either the formation of an emulsion by the use of emulsifiers or the "binding" of the water by the addition of a hydrophylic or a colloidal material. As emulsifiers, cholesterol (9) and its derivatives (10), various alcohols (11, 12), hydrogenated castor (13, 14, 15, 16), soybean and other oils (17), and triethanolamine

(12) have been employed. Minerals such as elkonite (18) and bentonite (19) have been utilized as "binding" substances.

"Hydrogel is a manufactured material obtained by the reaction of a soluble silicate, such as 'water glass,' and an acid, such as sulfuric; the two components being of definite ratio. The hydrosol of silicic acid thus formed 'sets' in a definite time to a hydrogel which is washed free from excess acid and salts." When incorporated in ointment bases, silica gel does not appear to act as a true colloid as do the mineral clays, elkonite and bentonite. Silica gel possesses the property to adsorb an unusually large amount of water to its surfaces, but, in itself, displays none of the characteristics commonly associated with substances which form gels when water is added, *viz.*, swelling, the forming of a jellylike mass, etc. It would appear much more probable that silica gel acts in an ointment base in the presence of water as a solid emulsifier.

In order to determine the approximate amount of water necessary in a hydrogel ointment base to produce an oil-in-water type base which, no doubt, favors the diffusion of water-miscible medicaments, conductivity experiments were carried out, utilizing the Van Dyk Emulsion Phase Tester (20). Varying amounts of hydrogel were added to a definite amount of white petrolatum until a minimum and a maximum conduction was obtained. The results of these experiments are tabulated in Table I.

CONDUCTIVITY EXPERIMENTS

TABLE I

White Petrolatum, Gm.	Hydrogel, Gm.	Per Cent Water	Conduc- tivity
5.00	2.00	24.28	—
5.00	2.25	26.38	—
5.00	2.35	27.17	—
5.00	2.40	27.56	+ —
5.00	2.50	28.33	+
5.00	2.85	30.85	+
5.00	3.00	31.87	++
5.00	3.02	31.93	++
5.00	3.04	32.13	++
5.00	3.06	32.27	+++ ^a
5.00	3.08	32.40	+++
5.00	3.09	32.46	+++
5.00	3.10	32.53	+++

^a +++ = Maximum conduction.

The minimum amount of hydrogel which may be added to 5 grams of white petrolatum in order to show any conductivity, thus indicating an oil-in-water type emulsion, was found to be

approximately 2.5 grams. Maximum conductivity was obtained when approximately 3 grams of hydrogel were added to 5 grams of white petrolatum. There is a marked decrease in conductivity when hydrogel is incorporated in smaller quantities than the minimum amount mentioned above, namely, 2.5 grams, which appears to indicate a change in the oil-in-water phase.

Hydrogel and white petrolatum, however, do not make a very satisfactory ointment base from a pharmaceutical standpoint. On the basis of the calculated amount of water which must be present in order to show good conductivity, an ointment base was developed containing hydrogel, 36.85 Gm.; white wax, 5.00 Gm.; hydrous wool fat, 5.00 Gm.; and white petrolatum 53.15 Gm.

This base contained approximately 33 per cent water (21) but did not show the maximum conductivity. This may have been due to the presence of the white wax which may have exerted its effect as a "binding" agent. This base was also unsatisfactory from a pharmaceutical standpoint due to grittiness.

It was decided, then, to eliminate the white wax and also to increase the water content in order to produce a smooth ointment base and to increase the conductivity, which appeared desirable. As a result of these modifications, the following two distinct types of bases have been perfected:

HYDROGEL-PETROLATUM
COMBINATION
BASE "A"

Hydrogel.....	45.00 Gm.
Hydrous Wool Fat.....	5.00 Gm.
Liquid Petrolatum.....	15.00 Gm.
White Petrolatum, <i>q. s.</i>	
To make.....	100.00 Gm.

Mix, in a mortar, the hydrous wool fat with the liquid petrolatum, and thoroughly levigate the hydrogel with this mixture. Finally add the white petrolatum and continue the trituration until a cream-like emulsion is produced.



HYDROGEL-HYDROGENATED VEGETABLE FAT COMBINATION

BASE "B"

Hydrogel.....	45.00 Gm.
Hydrous Wool Fat.....	5.00 Gm.
Liquid Petrolatum.....	15.00 Gm.
Hydrogenated Vegetable Fat, g. s.	
To make.....	100.00 Gm.

Mix, in a mortar, the hydrous wool fat with the liquid petrolatum, and thoroughly levigate the hydrogel with this mixture. Finally add the hydrogenated vegetable fat and continue the trituration until a cream-like emulsion is produced.

Base "A"—the Hydrogel-Petrolatum Combination, may be indicated for medicaments not intended for absorption, while base "B"—the Hydrogel-Hydrogenated Vegetable Fat Combination, may be employed for medicaments intended to be absorbed. Either base, when incorporated with any one of the commonly used medicinal substances, such as sulfur, phenol, zinc oxide, boric acid, red and yellow mercuric oxides, etc., presents excellent pharmaceutical preparations. It is often difficult, for instance, to produce an ointment of sulfur, with some of the ordinary bases, that is, free from some grittiness. Sulfur, when incorporated in either base "A" or in base "B," is levigated to a marked degree of smoothness. Yellow mercuric oxide in either of the bases shows no discoloration after having been stored in an ordinary container for an indefinite length of time. Zinc oxide, as in the case of sulfur, produces an unusually smooth preparation when incorporated in either of the bases.

Liquid petrolatum was chosen as the levigating agent in bases "A" and "B" because it was the only one of the six substances (2) which appeared to "hold" the water in the silica gel over a period of fifteen months' storage. Boric acid in base "E" (2) (silica gel and liquid petrolatum), at the end of the fifteen months' storage, was analyzed for its water content according to the Toluene Distillation Method of the Pharmacopœia (21). There was less than 1 per cent loss of water. This preparation was also examined for its antisepticity. At the end of the same period of storage, it exhibited practically the same zone of inhibition as it did when freshly prepared.

Bases "A" and "B" appear to lose little or no water of hydration upon standing for several weeks. It was demonstrated that only by means of artificial dehydration (desiccation) will any appreciable amount of water be lost from these bases within a reasonable length of time. As water is lost, however, there is a corresponding decrease in conductivity and in antisepticity.

The results of the effect of desiccation of ointment of boric acid (10%), when made with base "A" upon conductivity and upon antisepticity, are shown in Table II, and also in the accompanying graph. The water content was checked at the end of a definite period of desiccation according to the Toluene Distillation Method for the Determination of Moisture (21).

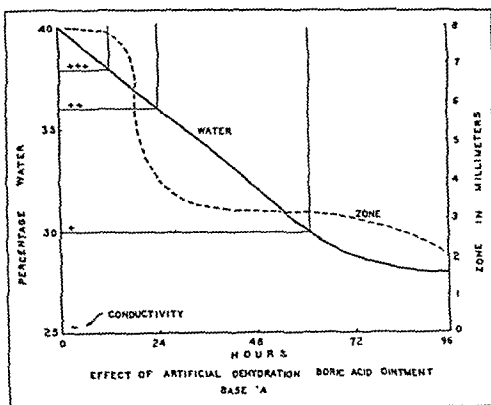


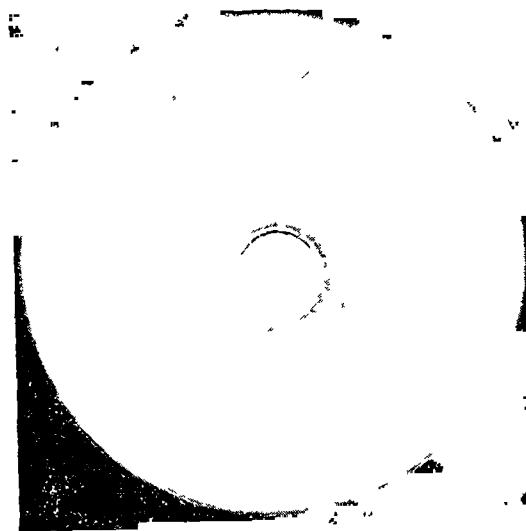
TABLE II.—EFFECT OF DESICCATION UPON OINTMENT OF BORIC ACID MADE WITH BASE "A"

Hours Desiccation	Per Cent Water	Conductivity	Zone of Inhibition, Mm.
0	39.75	+++	8
12	37.50	+++	7
24	36.00	++	6
36	34.00	+	3
48	32.00	+	3
60	30.00	+	2.5
72	29.00	+-	2.0
84	28.00	-	1.75
96	28.00	-	1.50

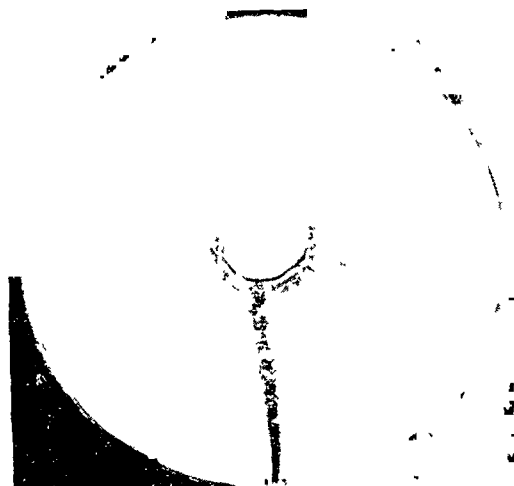
It is apparent that water plays a very definite role in the promotion of the diffusion of certain water-miscible medicaments.

Antisepticity experiments were carried out utilizing phenol, 2 per cent (the strength designated by the United States Pharmacopœia, Eleventh Decennial Revision, for Ointment of Phenol) in base "B." As far as is known, this strength of phenol when incorporated in any oleaginous ointment base has failed to exhibit any antiseptic properties when tested by the

Agar Cup-Plate Method (5, 7). It will be noted from the photograph that 2 per cent phenol incorporated in base "B" exhibited an approximately 4-mm. zone of inhibition.



Boric acid, 10 per cent, the designated strength of the pharmacopoeial ointment of boric acid, which has failed, so far as is known, to exhibit any antiseptic properties when incorporated in any of the ordinary bases, exhibited an inhibitory zone of approximately 8 mm. when incorporated in base "B."



The following is a tabulation of the comparative results of the medicaments which failed to show any antiseptic properties in the bases studied heretofore (3) with bases "A" and "B."

BACTERICIDAL EFFICIENCY OF 2 PER CENT PHENOL OINTMENTS

Agar Cup-Plate Method

Bases	Inhibitory Zone in Mm, 3 Tests Each	Sub-Cultures Made from Center of Inhibitory Zone
U. S. P. X	0 ^a	
U. S. P. XI	0	
Wool Fat	0	
Hydrous Wool Fat	0	
Petrolatum	0	
White Petrolatum	0	
Rose Water Ointment	0	
Protegin X	0	
Hydrogenated Fat	0	
Base "A"	6 ^a	No growth
Base "B"	4 ^a	No growth

^a Average zone.

BACTERICIDAL EFFICIENCY OF 10 PER CENT BORIC ACID OINTMENTS

Agar Cup-Plate Method

Bases	Inhibitory Zone in Mm, 3 Tests Each	Sub-Cultures Made from Center of Inhibitory Zone
U. S. P. X	0	
U. S. P. XI	0	
Wool Fat	0	
Hydrous Wool Fat	0	
Petrolatum	0	
White Petrolatum	0	
Rose Water Ointment	0	
Protegin X	0	
Hydrogenated Fat	0	
Base "A"	7.6 ^a	No growth
Base "B"	7.0 ^a	No growth

^a Average zone

BACTERICIDAL EFFICIENCY OF 15 PER CENT SULFUR OINTMENTS

Agar Cup-Plate Method

Bases	Inhibitory Zone in Mm, 3 Tests	Sub Cultures Made from Center of Inhibitory Zone
U. S. P. X	0	
U. S. P. XI	0	
Wool Fat	0	
Hydrous Wool Fat	0	
Petrolatum	0	
White Petrolatum	0	
Rose Water Ointment	0	
Protegin X	0	
Hydrogenated Fat	0	
Base "A"	2 ^a	No growth
Base "B"	2.5	No growth

^a Average zone

BACTERICIDAL EFFICIENCY OF 20 PER CENT ZINC OXIDE OINTMENTS

Agar Cup-Plate Method

Bases	Inhibitory Zone in Mm, 3 Tests	Sub Cultures Made from Center of Inhibitory Zone
U. S. P. X	0	
U. S. P. XI	0	
Wool Fat	0	
Hydrous Wool Fat	0	
Petrolatum	0	

White Petrolatum	0	
Rose Water Ointment	0	
Protegin X	0	
Hydrogenated Fat	0	
Base "A"	2 25 ^a	No growth
Base "B"	3 00	No growth

^a Average zone.

CONCLUSIONS

1. Hydrogel (silica gel) apparently acts as a solid emulsifier in the presence of water and oleaginous substances.
2. The minimum amount of water which, as calculated, must be present in a hydrogel ointment base is approximately 33 per cent.
3. As water is lost upon desiccation of an ointment made with a hydrogel base, there is a corresponding decrease in conductivity and in antisepticity.
4. Two ointment bases utilizing hydrogel-petrolatum and hydrogel-hydrogenated vegetable fat have been perfected.
5. Ointments of phenol, sulfur, boric acid, zinc oxide, red and yellow mercuric oxides, etc., when made with hydrogel-type bases present excellent pharmaceutical preparations.
6. Phenol, sulfur, zinc oxide and boric acid, respectively, when incorporated in a hydrogel-type base exhibit well-defined zones of inhibition. These medicaments have failed, heretofore, to

show any antiseptic properties when incorporated with any of the oleaginous bases.

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- (12) Mumford, P B, "Emulsifying Bases in Dermatology," *British J Derm and Syph*, 50 (1938), 540
- (13) Fiero G W, "Hydrogenated Castor Oil as an Ointment Base," *Jour A Ph A*, 25 (1936), 862
- (14) Fiero G W, and Lockie, L D, "Hydrogenated Castor Oil in Ointments—Part 2 Cosmetics," *Ibid*, 27 (1938), 402
- (15) Fiero G W, "Hydrogenated Castor Oil in Ointments—Part 3 Product of Sulfonation," *Ibid*, 28 (1939), 100
- (16) Fiero G W, "Hydrogenated Castor Oil as an Ointment Base," *Ibid*, 28 (1939), 598
- (17) Fiero, G W, "Hydrogenated Oil as an Ointment Base," *Ibid*, 29 (1940), 18
- (18) Taunter, M L, Kulcher, G, and Stockton, A B, "Elktonite, a Colloidal Clay," *Ibid*, 29 (1940), 306
- (19) Anon, "Some Pharmaceutical Uses of Bentonite," *Pharm. J*, 143 (1939), 528
- (20) Orelup, J W, "Emulsion Phase Testing," *Progressive Perfumery and Cosmetics*, May 1938, Van Dyl Co, Jersey City, N J
- (21) Pharmacopoeia of the United States of America, Rev XI, 473

COUNCIL ON PHARMACEUTICAL EDUCATION TEN YEARS OLD

60 OF 68 COLLEGES WHICH APPLIED FOR ACCREDITATION HAVE BEEN APPROVED. FUNDS NEEDED FOR REINSPCTIONS. GIFTS TO COUNCIL EXEMPT FROM FEDERAL INCOME TAXES

IN 1942, which is just around the corner, the American Council on Pharmaceutical Education will have completed the first ten years of its existence. In these ten years, it has formulated standards for the accreditation of colleges of pharmacy, has perfected a working organization and has completed initial inspections of the sixty-eight colleges of pharmacy, which have applied for accreditation. Of this number of colleges, sixty have been accredited.

Up to the present time, funds for the operation of the Council have been provided through annual contributions of \$200 each from the AMERICAN PHARMACEUTICAL ASSOCIATION, the National As-

sociation of Boards of Pharmacy, and the American Association of Colleges of Pharmacy. The cost of inspection has been defrayed entirely by the individual colleges. Present indications are, however, that the colleges will not be able to stand the expense of periodic reinspections. Some other means will have to be found to provide the funds for this purpose. It may be that it will be found necessary to invite contributions from outside sources. It is, therefore, encouraging, in this connection to be informed by the office of the Commissioner of Internal Revenue, Washington, D C, that the Council is exempt from Federal income taxes and that it will not be necessary for the Council to file income returns. Furthermore, that contributions made to the Council are deductible by the donors in arriving at their taxable income; that bequests, legacies, devices and transfers, to or for the use of the Council, are deductible in arriving at the value of the net estate of a decedent for estate taxes and that gifts of property to the Council are deductible in computing net gifts for gift tax purposes.

SALES OF INDEPENDENT PHARMACIES

CENSUS OF BUSINESS (1939)

Sales Group	Number of Stores	Per Cent of Stores	Total Sales
\$300,000 and over	37	0.07	21,109,000
100,000 to 299,999	576	1.03	80,597,000
50,000 to 99,999	3,232	6.01	210,309,000
30,000 to 49,999	7,506	14.00	281,161,000
20,000 to 29,999	9,055	16.84	221,944,000
10,000 to 19,999	17,614	32.75	260,326,000
10,000 or more	38,020	70.7	1,075,446,000
5,000 to 9,999	9,171	17.05	68,594,000
3,000 to 4,999	3,211	5.97	12,877,000
2,000 to 2,999	1,265	2.35	3,038,000
1,000 to 1,999	1,208	2.25	1,804,000
Less than 1,000	903	1.68	481,000
Less than \$10,000	15,758	29.3	86,794,000
Total	53,778	100.	1,162,240,000

NUMBER OF SUCCESSFUL PHARMACIES INC.

CENSUS OF BUSINESS SHOWS 5031 MORE PHARMACIES HAD ANNUAL SALES ABOVE \$10,000 IN 1939 THAN DID IN 1935

THERE were 5031 more independent pharmacies with annual sales of \$10,000 or better in 1939 than there were in 1935, according to the latest report of the Census of Business, issued by the United States Department of Commerce. The total number of independent pharmacies in the country increased only 736, from 53,042 to 53,778, during this four-year period, while total sales in independent drug stores increased \$235,220,000—from \$927,020,000 to \$1,162,240,000—according to the report.

Thirty-eight thousand independent pharmacies do 92.53 per cent of the total drug business done by all independent drug stores in the United States. These 38,000 pharmacies which account for more than nine-tenths of all independent drug store sales are those with annual sales of \$10,000

or more, and they represent total number of independent country. The other 29.3 per cent of total independent pharmacies together account for 7.47 per cent of total independent sales.

Annual sales of \$10,000 are generally considered to be the minimum for a profitable operation of a retail pharmacy on a full-time basis. The 15,758 drug stores with annual sales of less than \$10,000 may be considered as part-time operations. For purposes of interpretation, it should be noted that a \$15,000 annual sales is the minimum for a one-man store with part-time help; a \$20,000 require the employment of full-time pharmacists.

It is almost unbelievable that independent pharmacies with less than \$1000 a year; the average per store, or about \$1 that in this group the (or stores which change

ARTICLES DROPPED BY U. S. P. XII AND ADMITTED TO N. F. VII

Acetum Scillæ
 Acidum Aceticum Dilutum
 Aconitum
 Acriflavina
 Acriflavinae Hydrochloridum
 Aethylhydrocupreinae Hydrochloridum
 Ammonii Bromidum
 Ammonii Salicylas
 Arseni Triiodidum
 Asafoetida
 Bismuthi Subgallas
 Calcii Creosotas
 Cantharis
 Capsicum
 Carbromalum
 Ceratum Cantharidis
 Cinchona
 Copaiba
 Creosoti Carbonas
 Creosotum
 Dichloramina-T
 Elixir Glycyrrhizæ
 Emplastrum Cantharidis
 Extractum Nucis Vomicae
 Ferrum
 Fluidextractum Belladonnae Radicis
 Guaiacol
 Hydrargyri Iodidum Flavum
 Iodoform
 Kino
 Liquor Ammonii Acetatis
 Liquor Ferri Chloridi
 Liquor Ferri Tersulfatis
 Liquor Sodii Hypochloritis Dilutus
 Massa Hydrargyri
 Mistura Opii et Glycyrrhizæ Composita

Oleum Santali
 Paraffinum
 Paraffinum Chlorinatum
 Pepsinum
 Pilulae Aloes
 Podophyllum
 Potassii Chloras
 Pulvis Ipecacuanhae et Opii
 Pulvis Sennae Compositus
 Pyrogallol
 Quinina
 Resina Podophyli
 Santoninum
 Scillæ
 Serpentaria
 Sodii Acetas
 Spiritus Aethylis Nitritis
 Spiritus Benzaldehydi
 Spiritus Chloroformi
 Strychninae Nitras
 Sulfonethylmethanum
 Sulfur Lotum
 Syrupus Ferri Iodidi
 Syrupus Scillæ
 Theobromina cum Sodii Salicylate
 Tinctura Aconiti
 Tinctura Cantharidis
 Tinctura Capsici
 Tinctura Cinchonae Composita
 Tinctura Ferri Chloridi
 Tinctura Kino
 Tinctura Scillæ
 Tinctura Valerianæ
 Tinctura Veratri Viridis
 Valeriana
 Veratrum Viride

ARTICLES OFFICIAL IN N. F. VI BUT ADMITTED TO U. S. P. XII AND THEREFORE NOT ADMITTED TO N. F. VII

Aethylis Carbamas
 Amaranthum
 Ampullæ Bismuthi Subsalicylatis
 Ampullæ Caffeinae cum Sodii Benzoate
 Ampullæ Calcii Gluconatis
 Ampullæ Dextrosi
 Ampullæ Emetinæ Hydrochloridi
 Ampullæ Epinephrinae Hydrochloridi
 Ampullæ Hydrargyri Salicylatis
 Ampullæ Pituitarii Posterioris
 Ampullæ Quininae Hydrochloridi et Aethylis Carbamatis
 Ampullæ Sodii Chloridi
 Ampullæ Sodii Citratis
 Calcii Phosphas Præcipitatus
 Elixir Phenobarbitali
 Liquor Amaranthi

Liquor Dextrosi et Sodii Chloridi Isotonicus
 Methylosanilinum
 Potassii Chloridum
 Quininae Hydrochloridum
 Syrupus Glycyrrhizæ
 Tabellæ Acetophenetidini
 Tabellæ Acidi Acetylsalicylici
 Tabellæ Atropinae Sulfatis
 Tabellæ Barbitali
 Tabellæ Barbitali Solubilis
 Tabellæ Codeinae Phosphatis
 Tabellæ Morphinae Sulfatis
 Tabellæ Phenobarbitali
 Tabellæ Sodii Nitritis
 Tabellæ Sodii Salicylatis
 Tabellæ Strychninae Sulfatis
 Tetrachloroethylenum

ARTICLES OFFICIAL IN N. F. VI BUT NOT ADMITTED TO N. F. VII

Cascara Amarga
 Curatio Paraffini
 Elixir Amygdalæ Compositum
 Elixir Aquosum
 Elixir Chloroformi et Potassii Bromidi Compositum

Fluidextractum Trifolii Compositum
 Prunus Cerasus
 Rubus Idæus
 Spiritus Amygdalæ Amaræ
 Syrupus Trifolii Compositus

SALES OF INDEPENDENT PHARMACIES

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100,000 to 299,999	576	1.03	80,597,000	6.93
50,000 to 99,999	3,232	6.01	210,309,000	18.09
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20,000 to 29,999	9,055	16.84	221,944,000	19.09
10,000 to 19,999	17,614	32.75	260,326,000	22.41
10,000 or more	38,020	70.7	1,075,446,000	92.53
5,000 to 9,999	9,171	17.05	68,594,000	5.91
3,000 to 4,999	3,211	5.97	12,877,000	1.11
2,000 to 2,999	1,265	2.35	3,038,000	0.26
1,000 to 1,999	1,208	2.25	1,804,000	0.15
Less than 1,000	903	1.68	481,000	0.04
Less than \$10,000	15,758	29.3	86,794,000	7.47
Total	53,778	100.	1,162,240,000	100.

NUMBER OF SUCCESSFUL PHARMACIES INCREASING

CENSUS OF BUSINESS SHOWS 5031 MORE PHARMACIES HAD ANNUAL SALES ABOVE \$10,000 IN 1939 THAN DID IN 1935

THERE were 5031 more independent pharmacies with annual sales of \$10,000 or better in 1939 than there were in 1935, according to the latest report of the Census of Business, issued by the United States Department of Commerce. The total number of independent pharmacies in the country increased only 736, from 53,042 to 53,778, during this four-year period, while total sales in independent drug stores increased \$235,220,000—from \$927,020,000 to \$1,162,240,000—according to the report.

Thirty-eight thousand independent pharmacies do 92.53 per cent of the total drug business done by all independent drug stores in the United States. These 38,000 pharmacies which account for more than nine-tenths of all independent drug store sales are those with annual sales of \$10,000

or more, and they represent 70.7 per cent of the total number of independent pharmacies in the country. The other 29.3 per cent of independent pharmacies together account for only 7.47 per cent of total independent drug store sales.

Annual sales of \$10,000, or \$27.40 a day, are generally considered to be the minimum for profitable operation of a retail pharmacy. On this basis the 15,758 drug stores which do less than this amount may be considered as unprofitable. For purposes of interpreting the Census figures it should be noted that a retail pharmacy with \$15,000 annual sales is the approximate maximum for a one-man store without any help; sales of \$15,000 to \$20,000 can be handled by one man with part-time help; and sales of upward of \$20,000 require the employment of two or more full-time pharmacists.

It is almost unbelievable that there are 903 independent pharmacies with annual sales of less than \$1000 a year; their average sales being \$533 per store, or about \$10 a week. It is probable that in this group the Census includes new stores or stores which changed ownership during the

ARTICLES DROPPED BY U. S. P. XII AND ADMITTED TO N. F. VII 77

Acetum Scillæ
 Acidum Aceticum Dilutum
 Aconitum
 Acriflavina
 Acriflavinae Hydrochloridum
 Aethylhydrocupreinae Hydrochloridum
 Ammonii Bromidum
 Ammonii Salicylas
 Arseni Triiodidum
 Asafoetida
 Bismuthi Subgallas
 Calcii Creosotas
 Cantharis
 Capsicum
 Carbromalum
 Ceratum Cantharidis
 Cinchona
 Copaiba
 Creosoti Carbonas
 Creosotum
 Dichloramina-T
 Elixir Glycyrrhizæ
 Emplastrum Cantharidis
 Extractum Nucis Vomice
 Ferrum
 Fluidextractum Belladonnae Radicis
 Guaiacol
 Hydrargyri Iodidum Flavum
 Iodoform
 Kino
 Liquor Ammonii Acetatis
 Liquor Ferri Chloridi
 Liquor Ferri Tersulfatis
 Liquor Sodii Hypochloritis Dilutus
 Massa Hydrargyri
 Mistura Opii et Glycyrrhizæ Composita

Oleum Santali
 Paraffinum
 Paraffinum Chlorinatum
 Pepsinum
 Pilulae Aloes
 Podophyllum
 Potassii Chloras
 Pulvis Ipecacuanhæ et Opii
 Pulvis Sennæ Compositus
 Pyrogallol
 Quinina
 Resina Podophyli
 Santoninum
 Scillæ
 Serpentaria
 Sodii Acetas
 Spiritus Aethylis Nitritis
 Spiritus Benzaldehydi
 Spiritus Chloroformi
 Strychninae Nitrates
 Sulfonethylmethanum
 Sulfur Lotum
 Syrupus Ferri Iodidi
 Syrupus Scillæ
 Theobromina cum Sodii Salicylate
 Tinctura Aconiti
 Tinctura Cantharidis
 Tinctura Capsici
 Tinctura Cinchonæ Composita
 Tinctura Ferri Chloridi
 Tinctura Kino
 Tinctura Scillæ
 Tinctura Valerianæ
 Tinctura Veratri Viridis
 Valeriana
 Veratrum Viride

ARTICLES OFFICIAL IN N. F. VI BUT ADMITTED TO U. S. P. XII AND THEREFORE NOT ADMITTED TO N. F. VII

Aethylis Carbamas
 Amaranthum
 Ampullæ Bismuthi Subsalicylatis
 Ampullæ Caffeinae cum Sodii Benzoate
 Ampullæ Calcii Gluconatis
 Ampullæ Dextrosi
 Ampullæ Emetinae Hydrochloridi
 Ampullæ Epinephrinae Hydrochloridi
 Ampullæ Hydrargyri Salicylatis
 Ampullæ Pituitarii Posterioris
 Ampullæ Quininæ Hydrochloridi et Aethylis Carbamas
 Ampullæ Sodii Chloridi
 Ampullæ Sodii Citratis
 Calcii Phosphas Precipitatus
 Elixir Phenobarbitali
 Liquor Amaranthi

Liquor Dextrosi et Sodii Chloridi Isotonicus
 Methylosanilinum
 Potassii Chloridum
 Quininæ Hydrochloridum
 Syrupus Glycyrrhizæ
 Tabellæ Acetophenetidini
 Tabellæ Acidi Acetylsalicylici
 Tabellæ Atropinae Sulfatis
 Tabellæ Barbitali
 Tabellæ Barbitali Solubilis
 Tabellæ Codeinae Phosphatis
 Tabellæ Morphinæ Sulfatis
 Tabellæ Phenobarbitali
 Tabellæ Sodii Nitritis
 Tabellæ Sodii Salicylatis
 Tabellæ Strychninae Sulfatis
 Tetrachloroethylenum

ARTICLES OFFICIAL IN N. F. VI BUT NOT ADMITTED TO N. F. VII

Cascara Amarga
 Curatio Paraffini
 Elixir Amygdalæ Compositum
 Elixir Aquosum
 Elixir Chlor... Potassii Bromidi Compositum

Fluidextractum Trifolii Compositum
 Prunus Cerasus
 Rubus Idæus
 Spiritus Amygdalæ Amarae
 Syrupus Trifolii Compositus

A MODERN

Old Fashioned Pharmacy

WHAT PHARMACIST BURGESS HAS DONE MORE PHARMACISTS SHOULD DO—REFLECT THEIR OWN INDIVIDUALITY IN THE PHYSICAL DESIGN OF THEIR PHARMACIES AS WELL AS IN THE SERVICES THEY RENDER

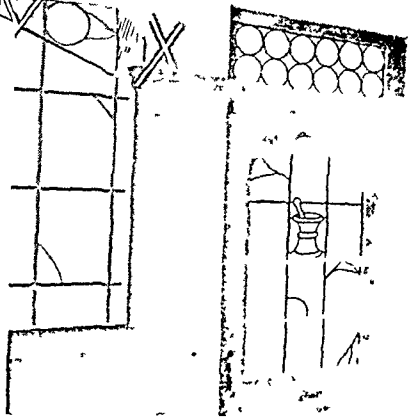
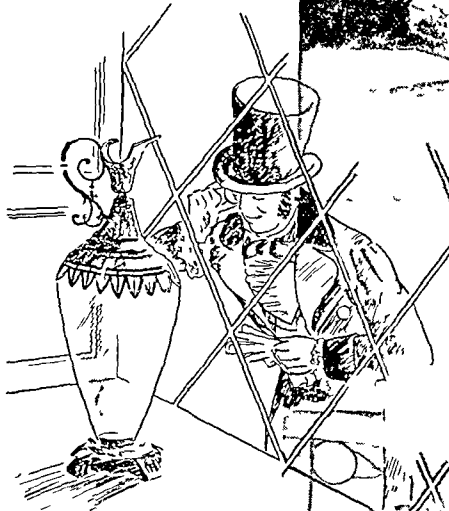
AUTHENTIC 17th Century is Nicholas G Burgess' new pharmacy in Bloomfield, N J. Hours of library search for prints of old English buildings; the services of a skilled architect, a capable stone mason and an artistic glassier, plus his own insistence upon accuracy in every detail, have given Pharmacist Burgess an apothecary shop which is a gem of design.

Mr. Burgess purchased a pharmacy in Bloomfield some eight years ago. By stressing his prescription department and professional services he gradually developed the store as a real pharmaceutical institution. This development, however, made it increasingly necessary to change the appearance of the pharmacy in order that it might reflect its true professional character.

Not to be rushed into re-modeling, Mr. Burgess devoted months to formulating his ideas and plans. For many years he had been interested in the historical background of the profession of pharmacy and he liked particularly the design of early English apothecary shops. The substantial exteriors of rough-hewn timber and stone, the leaded glass windows, the slate roofs, and the oak-paneled interiors represented his idea of the finest in early store design. Naturally, then, his thoughts



Above: View of the impressive doorway of Mr. Burgess' shop in Bloomfield, N. J.



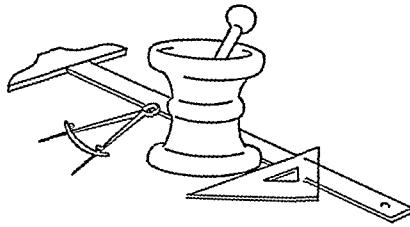
centered around architecture of this period as the plans for his own pharmacy began to take shape in his mind.

When he had decided definitely that his pharmacy was to be of Seventeenth Century design,

he called in a local architect, Raymond B. Flatt. Together they discussed the idea and made preliminary decisions as to space allotments and then sought the coöperation of the Bloomfield and Glen Ridge libraries in a search for old prints of English buildings.

It took months of research to collect the group of several hundred prints which were used to develop the design. Mr. Burgess insisted that the entire design be authentic and slowly he and Mr. Flatt put the pharmacy together bit by bit on the drawing board. The design was built up, torn down, re-worked, and revised until finally it met with their complete satisfaction.

Then began the task of obtaining the materials needed to construct the shop. From a stone mason they obtained a collection of old stone which has been brought from England as ship ballast. The stones were selected carefully and each was cut individually so as not to disturb the original face which showed the markings of the original craftsmen's tools. They were fitted together with care to make the piers which would support the store front. From a furniture-maker



they obtained hand-hewn English oak with which to frame the windows. Over the entire front of the store they hung a narrow English stone roof in variegated colors.

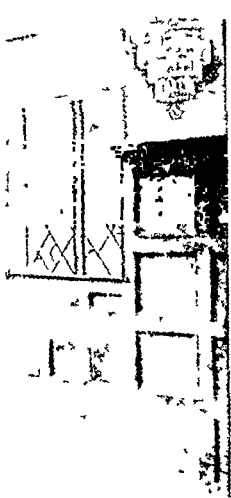
An artistic glassier was called in to do the leaded

glass front windows. His talent was clearly demonstrated in the mortar and pestle which he worked into the glass panel for the door and in the pair of caducei which he worked into a small side window. Much of the glass which he used actually came from old English buildings.

The front section of the interior of the pharmacy was made into a waiting room with a counter extending across the back. This section of the pharmacy was wainscoted in English oak paneling, finished in Verdi-antique stain and hand-polished with wax. The floor is covered with broadloom carpeting in the same restful light blue-green shade. For ceiling light fixtures Mr. Flatt obtained two beautiful crystal chandeliers.

Behind the waiting counter is a leaded glass backscreen obtained from an old New Jersey mansion and from the same source Mr. Flatt purchased the brass-studded leather door through which one enters the prescription room from the waiting room. A small glass case on one wall of the waiting room is used for the display of sick room supplies. Chairs and magazines are avail-

Below Two views of the waiting room of the shop. It is finished in a light blue-green color which gives a very restful, professional atmosphere to the shop.



able for customers who wait for their prescriptions to be compounded.

In the front windows of the pharmacy are two beautiful showglobes with brass bases and ornamental tops. They were purchased by Mr. Burgess from the collection of antiques of William Randolph Hearst.

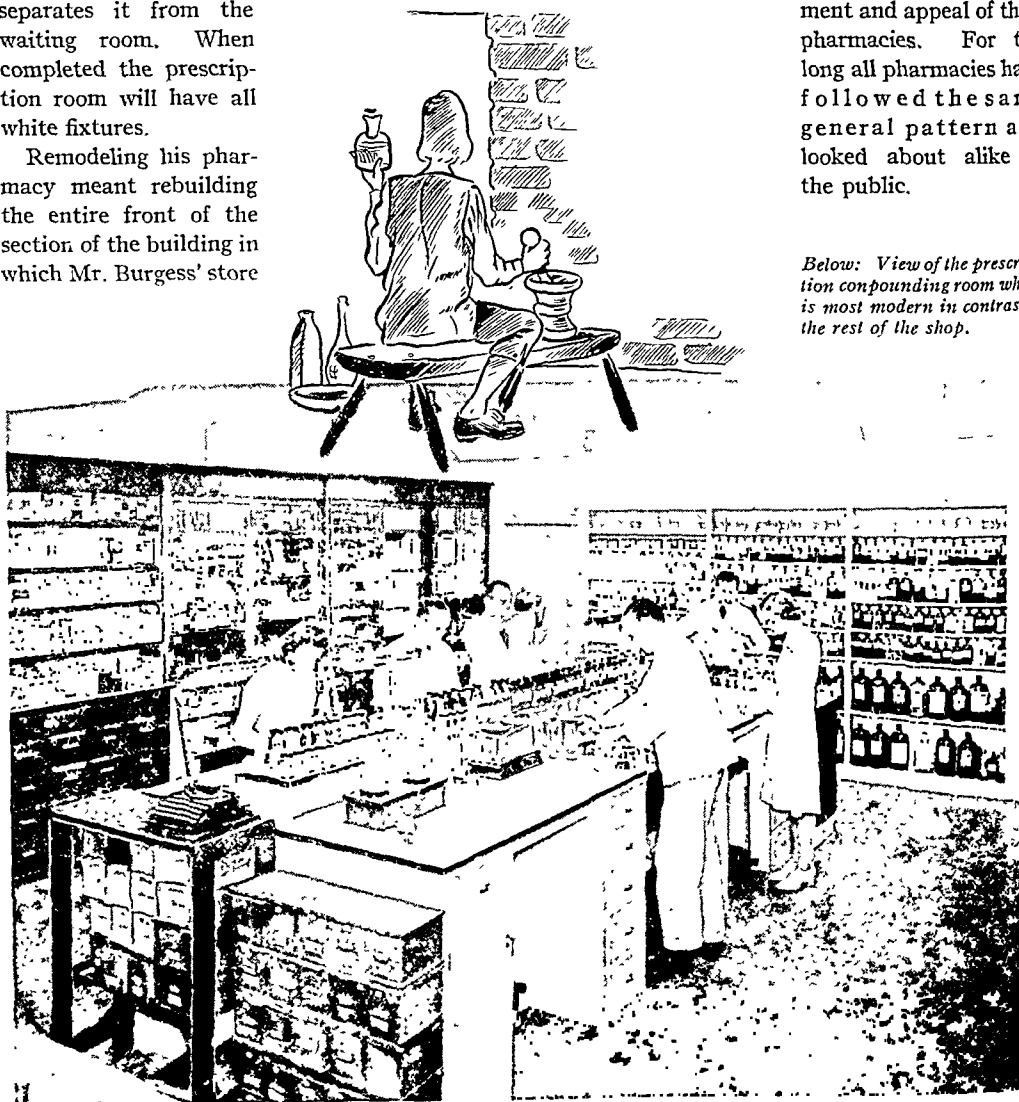
Although the exterior of the pharmacy and the waiting room are Seventeenth Century, the prescription room is most modern, for individual compounding desks permit pharmacists to work with the greatest efficiency and fluorescent lighting provides an abundance of light that makes the whole department gleam through the leaded glass backscreen which separates it from the waiting room. When completed the prescription room will have all white fixtures.

Remodeling his pharmacy meant rebuilding the entire front of the section of the building in which Mr. Burgess' store

is located, but it was worth it. Comments from customers, of course, have been numerous for it is almost impossible to step in its door without giving expression to the quiet, restful professional atmosphere which permeates the shop. Mr. Burgess' objective was to give his shop an appearance which would reflect the professional character of his practice. He has done that and more, for since he remodeled the pharmacy the number of prescriptions he fills is rapidly increasing.

What Mr. Burgess has done in a small New Jersey town is something that pharmacists should do—stress their individuality in the design, layout, arrangement and appeal of their pharmacies. For too long all pharmacies have followed the same general pattern and looked about alike to the public.

Below: View of the prescription compounding room which is most modern in contrast to the rest of the shop.



Druggist's Digest

OF NEW FORMULAS, RECENT PHARMACEUTICAL DEVELOPMENTS, AND OTHER PROFESSIONAL DATA

ZINC PEROXIDE IN ATHLETE'S FOOT

Although potassium permanganate is one of the most effective drugs in the treatment of the acute stages of athlete's foot infections, it has the disadvantages of being unstable and being impossible of combination in an ointment or drying lotion. When the acuteness of the lesions has subsided, the blebs have broken, and the skin is macerated and exuding, the use of irritating ointments and greases is inadvisable, if not actually contraindicated, and yet patients are not always willing or able to stay away from their occupations to use foot soaks or wet compresses.

Dr. Samuel Feldman, of New York City, states that zinc peroxide in vanishing cream is well suited for use in this situation. He has used such an ointment on 30 patients in Morrisania Hospital with gratifying results. Itching was relieved in a short time and the macerated and exuding lesions became dry and clean looking within a few days and healed in a few weeks. The ointment is not greasy and does not soil footwear or bedclothes. It is particularly valuable in the treatment of lesions between the fingers and toes.

Dr. Feldman uses a Zinc Superoxide,* which consists of 45 per cent of zinc peroxide (ZnO_2) and 55 per cent of zinc oxide (ZnO), with an oxygen content of 7.4 per cent. It is more stable than zinc peroxide (Z.P.O. Merck) which is used for autoclaving. In combination with moisture, even the amount in a vanishing cream base, oxygen is liberated but not in sufficient quantity to interfere with the therapeutic activity. For the vanishing cream base, Dr. Feldman uses the following formula:

Stearic Acid, U. S. P.....	20.0
Glycerin.....	3.4
Potassium Hydroxide.....	1.8
Water.....	30.0

* Merck and Company.

Dr. Feldman prescribes a 10 per cent ointment of Zinc Superoxide in this base.

The ointment is fairly stable when kept in a cool place in a jar with a non-metallic cap. Space in the jar should be allowed for the accidental accumulation of oxygen.

—*Arch. Derm. & Syphil*, 44:4 (Oct. 1941), 674

PHENOTHIAZINE IN THE TREATMENT OF ENTEROBIASIS

Eighty-nine children and 9 adults infected with pinworms were treated with phenothiazine with cures in all cases except one, according to Dr. E. Kuitunen-Ekbaum, of the Department of Hygiene and Preventive Medicine, of the University of Toronto. Phenothiazine is at present being used in the United States as a veterinary anthelmintic and, as such, has been admitted to the National Formulary VII, but it has not been released for human use.

A recrystallized phenothiazine was used in the Canadian study. The following dosage table was used:

For children of 2 to 5 years, a total of 4-5 Gm. in divided doses over a period of 5 to 6 days.

For children of 6 to 8 years, a total of 6 Gm. in divided doses over the same period.

For children of 9 years or over, a total of 8 Gm. in divided doses over the same period.

For adults, 1.5 to 2 Gm. a day for 5 to 6 days.

The children were given the drug mixed in porridge or cereal on consecutive mornings.

On the basis of 7 consecutive swabs (NIH) taken daily 7 days after the last dose, 76 children and 8 adults were found to be free of infection. The remainder were given a second course

of treatment. Of this group two were not followed, one child remained infected, the rest were found to be free of infection.

No laxatives were given. There were no complaints of adverse effects of the drug.

—*Canadian Pub. Health Jour.*, 32:6 (June 1941), 308-13

A NEW MODIFIED CALAMINE LOTION

Dr. George V. Kulchar, M.D., of the Division of Dermatology and Syphilology of the Stanford University School of Medicine, San Francisco, suggests the following formula for a modified calamine lotion:

Prepared Calamine.....	35 Gm.
Elkonite*.....	7 Gm.
Zinc Phenolsulfonate.....	10 Gm.
Glycerin.....	10 cc.
Aqua Hamamelis.....	50 cc.
Water, q. s.....	240 cc.

* Dr. Kulchar uses bentonite with equally satisfactory results.

Dilute the glycerin with an equal quantity of water. Add the calamine in small portions to this solution in a mortar, triturating to a smooth paste between each addition. Sprinkle the bentonite upon 93 cc. of hot water, a little at a time, until the bentonite has all been wetted, allow to cool and triturate in a mortar to remove lumps, and set aside for about 3 hours. Dissolve the zinc phenolsulfonate in 50 cc. of water, add the hammamelis water and dilute the magma with this mixture. Gradually incorporate the diluted magma in the calamine mixture and add sufficient water to make 240 cc.

Dr. Kulchar compares the modified lotion with calamine lotion and states that the modified product has the advantage of greater stability, has less tendency to form gritty particles on the skin and spreads more easily over the surface of the skin. It is easier to remove with water and forms a smooth film not easily removed from the skin by rubbing against clothing.

—*Arch. Derm. & Syphil.*, 44:1 (July 1941), 43

SULFANILAMIDE IN GLYCERIN

The application of a supersaturated solution of sulfanilamide in glycerin is routine in the treatment of all cases of impetigo; acute infectious dermatitis of the ears, scalp or feet; coccigenic sycosis; folliculitis, septic ulcers and other streptococcic and staphylococcic infections in his private practice and at the Clinic of the State University of Oklahoma, according to Dr. Everett S. Lain, of Oklahoma City, Okla.

Dr. Lain reasoned that the administration of sulfanilamide internally with the attendant nausea and other side-effects might be avoided in the treatment of non-febrile and obviously localized infections if a solution were used. Sulfanilamide is only slightly soluble in water so Dr. Lain uses glycerin. He mixes 4 to 8 Gm. of the drug with 30 cc. of warm (not hot) glycerin, and he states that the excess sulfanilamide serves as an excellent protective dressing.

The solution is applied with a swab or the finger to the affected areas 2 or 3 times a day without bandaging. The time required for a cure may be shortened if daily applications are made with thin strips of gauze saturated with the solution and bandaged. If sheets of paraffin paper are applied over the saturated gauze under the bandage, the diseased parts will be kept moist and comfortable and the crusts which usually adhere to the gauze will come away with the change of the first dressing. There may be a mild smarting at the first application, due to the action of the glycerin on the area, but this disappears in a few seconds and the dressing becomes soothing and comfortable.

—*Arch. Derm. & Syphil.*, 44:2 (Aug. 1941), 257

A NEW INFANT DOSAGE SCHEDULE

Most mathematical formulas or rules for the determination of infant doses are based on the size of the baby in relation to the size of an adult. Although the infant's weight offers a reasonable basis of judgment, it is not always practical to weigh a sick baby and, therefore, most dosage guides are based on the age of the infant.

Between the ages of 1 and 12 years the advances of age and increases in weight are suffi-

ciently parallel to make it possible for a rule to give approximately satisfactory answers but, during the baby's first year growth is not regular. An infant usually gains weight in regular amounts during the first six months after birth, more slowly during the next two months, and still more slowly during the last four months. In all, 9 pounds are usually gained during the first six months and $4\frac{1}{2}$ pounds during the second six months.

Differences in the susceptibility of infants to drugs has led to the determination that weight proportions cannot be used completely.

Dr. R. E. Cloud, of Birmingham, Ala., has studied this problem and provided a new dosage guide for infants under one year of age. He uses Bastedo's rule with modifications. Bastedo's rule for the determination of doses for children under 12 years of age, is as follows:

$$\text{Adult Dose} \times \frac{\text{patient's age} + 3}{30}$$

Dr. Cloud modifies this rule for children under one year of age, as follows:

1-6 MONTHS

$$\text{Adult Dose} \times \frac{\text{age} + 5}{100}$$

7-8 MONTHS

$$\text{Adult Dose} \times \frac{\text{age} + 4}{100}$$

9-10 MONTHS

$$\text{Adult Dose} \times \frac{\text{age} + 3}{100}$$

Complete dosage charts, indicating the percentage of the adult dose which should be given, are provided by Dr. Cloud as follows:

Where the physician feels that his infant patient may have a youthful susceptibility to the drug he wishes to administer (idiosyncrasy or allergy in the individual is not referred to), Dr. Cloud takes into consideration the following suggested tolerance percentage of infants:

At birth	— 50 per cent of weight proportion or of the fractional doses in preceding tables
7 months	— 60 per cent of weight proportion or of the fractional doses in preceding tables
1 year	— 70 per cent of weight proportion or of the fractional doses in preceding tables
2 years	— 80 per cent of weight proportion or of the fractional doses in preceding tables
3 years	— 90 per cent of weight proportion or of the fractional doses in preceding tables
4 years	— 100 per cent of weight proportion or of the fractional doses in preceding tables

An interesting sidelight on Dr. Cloud's dosage table for infants under 1 year, is the fact that any dose multiplied by 150 gives the approximate weight for a baby of the age specified.

—*Jour. Med. Assoc. St. of Ala.*, 11:3 (Sept. 1941), 102

Note: In a personal communication to THIS JOURNAL, Dr. Cloud makes this further explanation of his table: "If we let 'X' represent the factor in the numerator added to the age, it will be noted that in decreasing 'X' by one after 6 months and again after 8 months, the doses at 6 and 7 and again at 8 and 9 are the same. More accurate fractions could be obtained by making the steps more gradual, say to have 'X' = $4\frac{1}{2}$ at 7 months, 4 at 8 months, $3\frac{1}{2}$ at 9 months, $2\frac{3}{4}$ at 10 months and 2 at 11 months. But, after all, only an approximation is important and to complicate a rule to such an extent would seriously interfere with its usefulness."

While the point was not made in my published paper, the dosage at birth may be obtained thus:

$$\frac{\text{Age } 0 + 5}{100} = \frac{1}{20} \text{ of adult dose}$$

INFANTS UNDER 1 YEAR

Months	Birth	1	2	3	4	5	6	7	8	9	10
	1/20	1/17	1/14	1/12	1/11	1/10	1/9	1/9	1/8—	1/8	1/8+

CHILDREN 1 YEAR AND OVER

(Bastedo Rule)

Year	1	2	3	4	5	6	7	8	9	10	11	12
	1/7—	1/6	1/5	1/4—	1/4+	1/3—	1/3	1/3+	2/5	2/5+	1/2—	1/2

SULFAPYRIDINE DOSAGE IN CHILDHOOD PNEUMONIAS

Children above the age of two years, where the prognosis, particularly in lobar pneumonia, is known to be good, require less sulfapyridine than children under that age, according to Drs. S. L. Ellenberg and H. S. Altman, of the Pediatric Service of Lincoln Hospital, New York City.

A dosage schedule of 0.1 Gm. per Kg. of body weight for the child over two will produce the desired effect of assuring a good prognosis, a prompt subsidence in temperature and in the toxicity of the pneumonia process, and will be accompanied by a lower incidence of toxic manifestation.

For children under the age of two years it is best to use a higher dosage schedule, 0.2 Gm. per Kg. of body weight, in treating pneumonias, particularly bronchopneumonias where the streptococcus is the responsible organism. Prognosis is far more serious in children of this age group and their response to sulfapyridine is less favorable.

At Lincoln Hospital, 107 pneumonia patients in the nursery and pediatric ward from December 19, 1938, to October 31, 1939, were given 0.2 Gm. of sulfapyridine per Kg. of body weight per day, and 113 patients from November 1, 1939, to June 19, 1940, were given half that amount. For the first twenty-four hours the daily amount was divided into equal doses given at four-hour intervals with the initial dose being twice as large as the succeeding ones. On the following day the same dose was given three times a day and continued three times a day until the patient's temperature remained normal for twenty-four hours. The drug was then discontinued.

Children over two years of age, on the smaller dosage, showed an adequate therapeutic response, less incidence of drug fever, a smaller number of genito-urinary complications, slightly lessened incidence of rashes and less nausea. In addition, patients on the lower dosage had less need for additional therapeutic measures such as oxygen, transfusions, clysis, sedation, serum and methods to combat abdominal distention.

The pediatricians found that the response of bronchopneumonias to sulfapyridine in any dosage was distinctly less favorable than that of lobar pneumonia because the majority of bronchopneumonias had streptococcus as the responsible organism. For these cases the higher dosage schedule is recommended.

For children under two years of age, it is suggested that the administration of sulfapyridine be continued until the patient's temperature remains normal for two or three days, rather than for merely twenty-four hours. The temperature of children in this younger age group shows a tendency to rise after the twenty-four hour period.

—*Arch. Pediatrics*, 58:10 (Oct. 1941), 649-656

SULFATHIAZOLE IN TREATMENT OF BED SORES

Decubitus ulcers, commonly known as bed sores, are extremely resistant to treatment. At the Cuyahoga County Nursing Home, Cleveland, Drs. J. I. Goodman and J. F. Corsaro were confronted with five cases of many months' standing on which all methods of treatment had been unsuccessful.

The physicians decided to try sulfathiazole. The drug was finely powdered and applied with a salt shaker or blower in sufficient quantity to form a complete coating over the ulcer. Finely powdered tablets are preferred to the drug in powder form. The results were "magical," they report. Immediately after the application of the drug the infections began to clear up; clean, healthy granulation tissue appeared; and the ulcers healed up rapidly.

—*Ohio St. Med. Jour.*, 37: 10 (Oct. 1941), 956-958

GLOBIN INSULIN

The aim of the physician in the treatment of diabetes mellitus is to give one injection of insulin which, in conjunction with an adequate diet, will maintain the level of blood sugar within normal limits for twenty-four hours. This is not possible with the many patients, using the preparations of insulin now available. Unmodified or crystalline insulin begins its action quickly and its effect is soon ended; protamine zinc insulin is delayed in action and is prolonged in effect; but physicians desire a preparation which would come in between these two products.

Drs. G. G. Duncan and C. E. Barnes, of the Pennsylvania Hospital, Philadelphia, report in-

teresting results with a new combination of globin, zinc and insulin which begins its action shortly after injection, gradually increases in effect to between the eight and twelfth after injection, and then gradually subsides in eighteen to twenty-four hours after administration. They have compared its effect on 42 patients and report that the new combination has quantitatively greater effect, unit for unit, than protamine zinc insulin.

The globin is prepared from beef blood by removing the iron-containing fraction from the hemoglobin molecule. It is a simple protein which is soluble at its iso-electric point.

The preparation was provided by the Experimental Research Laboratories of the Burroughs Wellcome Company. Its composition is as follows:

Globin.....	3.04 mg.
Zinc.....	0.24 mg.
Insulin.....	80 units

It is a clear, yellowish fluid with a pH of 3.7.

—*Am. Jour. Med. Sci.*, 202: 4 (Oct. 1941), 553–563

URGES PILLOW FOR INFANTS

Pharmacists who have developed baby departments and who make a point of being able to offer competent advice on the many questions that are asked by mothers concerning baby care, will be interested in a recent article by Dr. Louis Palmer, of the Department of Medicine, Jewish Hospital, Brooklyn, N. Y., on the subject of pillows for infants.

Because his own three-month-old daughter was almost asphyxiated as a result of the aspiration of thick mucous, Dr. Palmer makes a strong case in favor of the use of a pillow which will give aid by gravity to passage down the esophagus and prevent similar cases of aspiration asphyxia. A firm hair pillow, not a soft downy one, is recommended by Dr. Palmer.

No infant should be fed on its back nor should be put in this position immediately after feeding because of the possibility of regurgitation and subsequent aspiration of some of the material.

—*Arch. Pediatrics*, 58: 10 (Oct. 1941), 666–668

DIGITALIS POTENCY AND ASSAY TO BE CHANGED

Tincture of Digitalis, U. S. P. XII, will be weaker than Tincture of Digitalis, U. S. P. XI, but stronger than Tincture of Digitalis, U. S. P. X, and will be assayed on cats instead of frogs, according to Dr. Erwin E. Nelson, of the Department of Pharmacology, Tulane University of Louisiana School of Medicine, and Chairman of the Subcommittee on Biological Assays of the U. S. P. XII Revision Committee (*Jour. A. M. A.*, 117:24 (Dec. 13, 1941), 2093).

Dr. Nelson points out that the increase in potency of digitalis preparations in the last U. S. P. was intended to bring American preparations into line with those of countries accepting the League of Nations Standards. One U. S. P. Digitalis Unit was to equal one International Digitalis Unit, and Tincture of Digitalis was required to possess one U. S. P. Unit per cc. Bringing American preparations into line with the International Standard necessitated increasing their potency from 25 to 30 per cent above that of the U. S. P. X preparations. When the U. S. P. Revision Committee prepared a Reference Standard Digitalis Powder, against which manufacturers could assay their digitalis preparations, it was found to be somewhat stronger than the International Reference Powder so that 0.745 Gm. of the U. S. P. Reference Powder was taken to possess the potency of 1 Gm. of the original International Reference Powder.

There has been widespread disagreement with the 0.745 factor, many believing that the U. S. P. Reference Powder is even stronger and that preparations assayed against it were as much as 150 per cent of the potency of U. S. P. X preparations—that is, 50 per cent stronger.

Dr. Nelson has served as chairman of a collaborative study on the subject and a new U. S. P. Reference Powder has been developed and has been adjusted to the potency of the International Reference Powder. It is expected that the U. S. P. XII preparations will have the potency that U. S. P. XI preparations were intended to have, namely, 125 per cent of the strength of U. S. P. X preparations.

Most of the clinical studies of digitalis dosage in the literature were made before 1936 and were based on preparations of U. S. P. X potency. Most physicians are accustomed to that strength preparation and many do not understand the change which was made in 1936 in the U. S. P. XI.

THREE TYPES OF INCOMPATIBILITIES OF SUSPENSIDS

by JOSEPH B. SPROWLS

UNIVERSITY OF COLORADO, COLLEGE OF PHARMACY

PREScriptions FOR SUCH
PRODUCTS AS AMPHOJEL,
AND KAOMAGMA, ETC., IN
COMBINATION WITH SALTS
OF BISMUTH AND OTHER
SUBSTANCES OR WITH EACH
OTHER OFTEN GIVE TROUBLE

A NUMBER of magmas and other closely related preparations, which can be collectively described as "suspensoids," are being prescribed rather frequently in combination with other preparations of the same type with which they appear to be incompatible. These suspensoids contain hydroxides, carbonates and silicates in an extremely fine state of subdivision. There seems to be a tendency on the part of physicians to prescribe combinations of suspensoids; therefore this paper is concerned primarily with the mutual incompatibilities of these preparations.

One of the prescriptions representing an incompatibility which has been encountered by the author is the following:

R̄		
	Bi Subnitratiss	℥ii
	Kaopectate, <i>q. s.</i>	℥ii

This was observed to become thick when the ingredients were mixed and to form a rather solid mass on standing.

Two other prescriptions which formed semi-solid, gel-like masses within a few hours of compounding are these:

R̄		
	Kaomagma,	
	Milk of Magnesia, <i>aa</i>	℥ii
R̄		
	Kaopectate,	
	Cremo-Carbonates, <i>aa</i>	℥ii

Probably prescriptions calling for such incompatible ingredients as these result from the physicians' thinking in terms of desirable therapeutic effects rather than in terms of possible pharmaceutical incongruities. However, the very fact that these suspensoids are more or less colloidal in nature would lead one to suspect that the number of materials with which they can be combined is limited and that their indiscriminate use as adjuvants is not advisable.

The intent of this investigation by the writer was to study more thoroughly the incompatibilities (particularly the mutual incompatibilities) of the suspensoids so that some knowledge of their limitations might be gained. A complete list of the preparations studied is as follows: Amphojel (Wyeth), Kaomagma (Wyeth), Kaomagma with Mineral Oil (Wyeth),* Kaopectate (Upjohn), Cremo-Carbonates (Sharp and Dohme), Milk of Trinesium (Abbott), Haley's M-O (Phillips),* Milk of Bismuth and Milk of Magnesia.

One fluidounce of each of the preparations was mixed with an equal volume of each of the others. Each of the first seven preparations was also combined with Bismuth Subcarbonate and Bismuth Subnitrate in such amounts that each fluidram of the combination contained 7½ grains of the bismuth salt. The mixtures were maintained at room temperature in stoppered wide-mouth bottles and were shaken thoroughly after each examination had been made. They were examined every two hours during the first eight hours and thereafter at 24-hour intervals for one week.

GEL-LIKE MASS FORMED

It is obviously impractical to give a complete description of the many changes which were observed; however, an attempt will be made to summarize the more important information. The most significant change noticed was coagu-

* These preparations could be described as "emulsoid suspensoids."

tion of the dispersed material to form gel-like masses from which a watery fluid separated. This precipitate disintegrated, upon shaking, into rather granular clumps, but it could not be dispersed throughout the mixture. There was complete destruction of the colloidal nature. Combinations which reacted in such a way are presented in the following table, which shows also the number of hours which were required for the coagulation to occur.

Combinations	Number of Hours
Kaomagma plus Kaopectate	24
*Kaomagma plus Bi Subcarbonate	12
Kaopectate plus Milk of Magnesia	24
Kaopectate plus Haley's M-O	24
Kaopectate plus Bi Subnitrate	4

THICKENING OF PREPARATIONS

A second incompatibility which was observed more frequently was a thickening of the preparation until it became too thick to pour even from a wide-mouth bottle. In some combinations this thickening was immediate, while in others the thickening occurred gradually, requiring several days to reach a condition in which it could not be poured. In most instances these preparations became increasingly thick upon standing until ultimately there resulted a semi-solid or a solid mass. Combinations which thickened in this fashion, together with the number of hours required to become so thick that they could not be poured, are the following:

Combinations	Number of Hours
Amphojel plus Kaopectate	48
Amphojel plus Bi Subcarbonate	36
*Kaomagma plus Cremo-Carbonate	48

* Kaomagma with mineral oil behaved in the same manner

*Kaomagma plus Haley's M-O	96
*Kaomagma plus Milk of Magnesia	96
Kaopectate plus Cremo-Carbonates	4

* Kaomagma with mineral oil behaved in the same manner.

GRANULAR PRECIPITATE

A third type of incompatibility which was observed in some cases was a flocculation which resulted in the deposition of a rather granular precipitate. Though the precipitate could be easily redispersed by shaking, it settled out rather rapidly. A list of combinations which reacted in this way will follow.

Amphojel plus Cremo-Carbonates
Kaomagma plus Kaopectate
Kaomagma plus Bi Subnitrate



Cremo-Carbonates plus Milk of Bismuth
 Cremo-Carbonates plus Bi Subnitrate
 Haley's M-O plus Bi Subcarbonate

COLLOIDAL REACTIONS

The changes observed seemed to be brought about through typically colloidal reactions. For example, the precipitation of the suspended material in Kaopectate by the addition of Milk of Magnesia took place in a manner which suggested the mutual precipitation of colloids of unlike charge. Indeed, a sample of Kaopectate made alkaline with KOH coagulated almost immediately. In a similar fashion, Kaomagma, which forms a semi-solid mass with Kaopectate, was found to be coagulated by HCl. Since kaolin constitutes the bulk of the suspended material in both these preparations, the reactions just described may appear to constitute an anomaly. However, Kaopectate contains, as a protective colloid, pectin, which is known to be precipitated by positive ions (1); while Kaomagma contains no such vegetable substance (2), but does contain colloidal aluminum hydroxide. Many examples of typical flocculation were observed, and the almost immediate coagulation of Kaopectate by bismuth subnitrate may have been brought about through the well-known ion effect on colloids.

These observations seem to emphasize the very obvious fact that the incompatibilities of the suspensoids embrace not only the usual chemical and physical rules of incompatibility, but also the rules of colloidal incompatibility. This has been pointed out in regard to Magma of Magnesia (3). In dealing with such suspensions one must bear in mind that oppositely charged colloidal particles are capable of mutual precipitation. Thus, even though two magmas or other suspensoids may seem to be very similar in nature and thus appear to be compatible, they may be incompatible because of their being colloids of opposite charge.

In considering the significance of these changes which have been observed, we must give some consideration to the use for which such prescriptions might be intended. It is obvious that such combinations would be almost certainly intended for the treatment of acute gastrointestinal disturbances such, for example, as the common "summer complaint," hence they would probably not need to be very permanent in nature. Providing the prescription would be usable for a period of two or three days, it would

in most instances survive the need of medication. Those combinations in the second group which do not become too thick to pour within three days are probably satisfactory for dispensing. Nevertheless, the physician should keep in mind that such preparations are not permanent and should prescribe them in small amounts, while the pharmacist should dispense such combinations only in wide-mouth containers.

Preparations which form gel-like masses, as those in the first group, would seem to be very unsatisfactory for use.

The third group of combinations showed a decided tendency to form a granular precipitate. The incompatibility of such combinations is perhaps more theoretical than actual. It is generally believed that a part of the value of the preparations studied depends upon the degree of fineness of the suspended particles. This fineness of suspension is believed to allow ready neutralization of hyperacidity and to adsorb gases and other toxic products. It seems apparent that disturbance of the colloidal nature of the particles might detract from the value of the preparations. On the other hand, this change is of a minor nature in so far as physical appearance is concerned, so there is no reason why the combinations could not be dispensed if they are felt to be desirable. Combinations not mentioned appeared to be satisfactory.

Nothing in this discussion is intended to detract from the value of the suspensoids when they are used alone in the manner in which they are intended to be used. The intent of the writer is to demonstrate that suspensoids do not lend themselves to promiscuous admixture with other suspensoids and with other substances.

SUMMARY

1. Suspensoids are not suited to promiscuous admixture with other preparations.
2. Colloidal preparations may appear to be very similar in nature and mutually compatible; yet if they bear particles of opposite charge, they are mutually incompatible.
3. If it is necessary that prescriptions be written for combinations of suspensoids, only small amounts should be prescribed and these must be dispensed in wide-mouth containers.

(1) Husa, William J., "Pharmaceutical Dispensing," 2nd Edition, page 533.

(2) Hunsberger, Ambrose, Jr., Private communication.

(3) LaWall, Wood, "United States Dispensary," 22nd Edition, page 653.

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American Association of Apothecaries	Max N Lemberger	Chas V Selby, 220 Milford St., Clarksburg, W Va	Denver, Colo	August '42
American Drug Manufacturers Association	S De Witt Clough	Carson P Frailey, 506-7 Albee Bldg., Washington	White Sulphur Springs, W Va	
American Pharmaceutical Manufacturers' Association	Bordner F Ascher	S Barksdale Penick, Jr 132 Nassau St., New York City	Swampscott, Mass	
Canadian Pharmaceutical Association	W A McKnight	O M Hurrell 100 Adelaide St., W, Toronto	Vancouver	
Federal Wholesale Druggists Association	Sidney C James	Ray C Schlotterer, 41 Park Row, N Y C	Hot Springs, Va	
National Association Boards of Pharmacy	Paul Molyneux	H C Christensen, 130 N Wells St., Chicago, Ill	Denver, Colo	August '42
National Association of Retail Druggists	Hugh P Berne	John W Dargavel, 205 Wacker Drive Chicago Ill	Cleveland, O	
National Wholesale Druggists' Association	P A Hayes	E L Newcomb, 830 W 42nd St., N Y C	White Sulphur Springs, W Va	
Proprietary Association	C S Beardsley	C P Tyrrell, Syracuse N Y	New York City	
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Conference of Pharmaceutical Association Secretaries	J J Shine	Mrs C B Miller, Topeka, Kans	Denver, Colo	August '42
Conference of Pharmaceutical Law Enforcement Officials	R P Fischelis	M N Ford, Columbus, O	Denver, Colo	August '42
National Conference of Pharmaceutical Research	H W Youngken	J C Krantz, Jr., Baltimore, Md	Denver, Colo	August '42
National Drug Trade Conference	Carson P Frailey	Rowland Jones, Jr., 1163 National Press Bldg., Washington, D C		
Plant Science Seminar	John E Seybert	Elmer H Wirth 833 S Kenilworth Ave., Oak Park, Ill		August '41

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Notwithstanding that the Second Edition of Professional Pharmacy contains 25 more pages than the First Edition, it has been possible to continue the same price per copy, namely, 25 cents. A discount of 10% on 10 or more copies is allowed; 15% on 100 or more; 20% for 250 or more; and 25% for 1000 or more.

Referring to a few of many sources of information: A prominent State Board of Pharmacy official pointed out that the Professional Pharmacy enables State Inspectors to compare the inventory of new drug stores with the basic list of prescription items on pages 65 to 82, inclusive.

Applicants for registration, who contemplate opening a pharmacy, may find lists of necessary items and the probable quantity required and approximate cost.

A table gives the form in which prescriptions are called for, supplying information relative to the needs of the prescription department and prevent overbuying and unnecessary purchases.

Throughout, the helpful purpose is evident to aid the druggist and pharmacist by presenting actual data from surveys, which Board Members, State Pharmaceutical Association Officials and Members of Faculties can bring to the attention of Registrants, Members of Associations and Students.

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*Practical
Pharmacy
Edition*

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THE NEW SELECTIVE SERVICE REGISTRATION

WITHIN a few weeks the Selective Service System will make its third and largest registration of the man-power of the United States. No one knows as yet just how far-reaching will be the effect of the amended Selective Service and Training Act on the professions, but it is sure to be considerable. In order that pharmacists may be prepared for any eventuality, it is well to review such information as is available at present and make plans accordingly.

The Selective Service System was instituted a little more than a year ago for the dual purpose of providing an army of approximately 1½ million men and to establish a reserve of trained men for an emergency. The selectees were to be trained for a year and then returned to civil life while another group was taken in and trained. In this manner, over a period of years the nation would have a vast reserve of trained men on whom it could call.

In drafting men for the services due consideration has been given to safeguarding the needs of the civilian population for pharmaceutical service. The AMERICAN PHARMACEUTICAL ASSOCIATION, through the Committee on the Status of Pharmacists in the Government Services and otherwise, has rendered every assistance to the Selective Service System in its task, supplying facts and figures dealing with the supply of pharmacists and the needs of the civilian public, and conferring on special problems affecting the health professions. This ASSOCIATION has repeatedly warned that the colleges of pharmacy during the past few years have not been graduating sufficient men and women to satisfy the normal replacement requirements of the profession and, on this basis, has sought the deferment of students in order

to maintain a flow of trained practitioners into the profession. Despite the opposition of those of this profession who contend that there is no shortage and insist that there are not too few pharmacists but too many drug stores, this ASSOCIATION has been able to maintain its position to the extent of securing official recognition of pharmacy as a profession necessary to the maintenance of public health and one of a group in which the drafting of any considerable number of students might produce a serious shortage of personnel with resulting impairment of vital services to the public. In most cases, Local Draft Boards have given full consideration to these facts in deferring individual pharmacy students of acceptable academic standing.

The declaration of war last month changed the objectives of the Selective Training and Service Act, however, and its purpose now is to build a fighting army. The exact size of this army has not as yet been determined; the statement given is that it must be large enough to win this war. In place of the 1½ million men envisioned when the Selective Training and Service Act was enacted, it may be 4, 6, or even 8 million men.

It is estimated that approximately 600 pharmacists have been drawn into the ranks by the operation of Selective Service. When the age limit was lowered from 35 years to 28 years, those men between 28 and 35 were returned to civil life.

The first effect of the new Selective Service program will be to keep in the service the pharmacists who have been conscripted thus far.

The second effect will probably be the recall of those men between the ages of 28 and 35 who were partially trained in the army and were then released.

The third effect of the new program will be to draw upon the profession for from two to five times as many pharmacists as have been enrolled thus far under Selective Service. If the present ratio is continued this means from 1200 to 3000, depending upon the size of the army which is to be developed. The withdrawal of this number of men for the duration of the emergency will undoubtedly disrupt the profession to a considerable extent. So will the withdrawal of a large number of physicians, dentists, nurses, and veterinarians disrupt those professions to a considerable extent—the war may be expected to disrupt every individual's life to a considerable extent, *but if this country should be defeated by the enemy the disruption to the American way of living would be complete.*

In conscripting practicing pharmacists, it is assumed that Local Draft Boards will use about the same yardsticks they have been using, with the exception of being more exacting in their application. Their first step will be to reexamine the deferments allowed under the previous registration and reconsider many of their borderline decisions.

"Local Boards will scrutinize more closely the actual dependency of a wife—there will be closer attention given to the manner in which the home was established and when it was established," states the Director of the Selective Service System. It follows that there will also be a more careful study of the necessity of pharmacists who have been deferred as "necessary men" in their respective communities. A pharmacist is a "necessary man" to the health and welfare of the community by reason of the professional services he renders and Local Draft Boards will probably give full consideration to the number of prescriptions a pharmacy fills and the extent of the professional services it renders in deciding whether or not the pharmacist who operates it is a "necessary man" to the community. Only his prescription services and sales of drugs and medicines make him essential to health and welfare.

In considering the deferment of practicing

pharmacists, the question of how many pharmacists are necessary to supply the pharmaceutical needs of a community will be an influencing factor. If there are five pharmacies employing a total of nine pharmacists in a particular area and it is shown that two pharmacists could handle all of the prescription work for the community, the five pharmacies will have to cooperate and utilize fully the pharmacists' services for which deferment is under consideration.

Employee pharmacists will probably be conscripted before men who own and operate their own pharmacies, but after allowance of deferment for dependents and disqualification for physical defects, it is inconceivable that the number of available employee pharmacists will satisfy the needs of the army. In all probability, if an army of great size is created, as many pharmacist owners as employee pharmacists will be drafted.

The fourth effect of the new Selective Service program will be on students of pharmacy. The Director of the Service has stated that "students will continue their studies when by so doing they become trained for professions in which there is scarcity." It should be stressed again, however, that deferment is given to individuals, not to groups, or classes, and each case is decided on its merits.

It has been suggested that professional schools in such fields adopt courses of continuous instruction to decrease the time required to train students; in pharmacy this would mean a three-year continuous course in place of the present four-year course with vacations and holidays. It is entirely possible that deferment of pharmacy students may be made contingent upon the adoption of such a program of continuous instruction. It is easy to see how those responsible for the draft would reason that consideration is due any profession that is faced with a shortage of personnel only if the educational institutions of that profession are doing everything within their power to speed up the training of those entering the field.

These students would be deferred only until they graduate, however, and the majority will enter the army at once. Some students subject to induction may be deferred on graduation if they are needed for the civilian practice of pharmacy but, by and large, for the next few years the colleges will provide few pharmacists for civilian practice other than women or men who are physically unfit for military service. In a profession which loses some 2900 practitioners by death or retirement each year, and whose colleges for the past several years have been graduating less than 1700 pharmacists per year, this is a problem that demands thought.

Quite apart from the Selective Service problem, but related to it, is the fact that during the past year employee pharmacists have been leaving the profession in increasing

numbers, to take positions with better hours and higher salaries in defense industries. This diversion of personnel intensifies the problems of the profession and suggests the immediate study of personnel problems in order to hold such man-power as we have through higher salaries and better working hours.

The AMERICAN PHARMACEUTICAL ASSOCIATION is keeping in close touch with these developments and shall continue to lend its counsel, advice, and assistance to the Selective Service System to the end that the pharmaceutical needs of the armed forces and of the civilian population may be satisfied in the most efficient manner possible.

When a battleship goes into combat it strips its decks for action. That is what pharmacy, and every other profession, must do to-day.

APPLICATION FOR MEMBERSHIP

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Approving the objects of the American Pharmaceutical Association, I hereby apply for membership in the Association and subscribe for the "Journal of the American Pharmaceutical Association." I enclose \$ _____ for my membership dues and subscription.

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A. Ph. A. LABORATORY MAKING

Study of "WASHABLE" OINTMENT BASES

NEW STUDY UNDERTAKEN IN JOINT COLLABORATION WITH DR. WERNER DUEMLING, IS EXPECTED TO FILL A REAL NEED OF PHYSICIANS AND PHARMACISTS FOR ACCURATE INFORMATION ON NEW BASES

ALTHOUGH ointments are one of the oldest forms of medication prepared by pharmacists for physicians, perhaps less is known about them than any other one class of preparations. The Ebers Papyrus of ancient Egypt gave directions for the incorporation of various drugs in goose grease for external application, Galen developed cold cream as an unguent, and down through the ages a great variety of fats, oils, and greases have been used as vehicles for medication, but even to-day their use is largely empiric for little is known as to the extent to which various oils and fats penetrate the skin and consequently physicians do not know what ointment base to use with various types of medication to secure particular therapeutic effects.

In recent years our ideas of external medication with ointments have been challenged by evidence indicating that a greasy ointment is ill-advised in the treatment of many skin conditions because the serous discharge of a wound is aqueous in character and it can neither find exit through a greasy barrier nor can medication in the greasy base reach the diseased tissue. Furthermore, it is contended that a layer of a greasy ointment prevents the escape of heat from an inflamed, diseased area. The quite general acceptance of

these criticisms of greasy ointment bases led to the development of so-called "water-soluble" or "washable" ointment bases which act as a medium through which heat can be conducted away from the wound, serous discharge can pass, and medication can reach the diseased area.

A number of new chemicals have been developed by manufacturers as emulsifiers in the preparation of such bases and scores of papers on their use have appeared in the literature—so many, in fact, that physicians and pharmacists could not help but become bewildered as to which formula to use. The fact that many of the new chemicals have been marketed under fanciful trade names such as Ocenol KD, Stenol, Aerosol OT, Orvus WA, and Duponol ME dry has further confused the matter.

The sentiment of physicians and pharmacists alike were well expressed by a prominent dermatologist who wrote a letter, published a few months ago in *Archives of Dermatology and Syphilology*, asking that the U. S. P. or N. F. bring order out of chaos by studying the subject and developing official standards for a satisfactory ointment base of the "washable" type.

To meet what is an obvious need on the part of pharmacists and physicians for information on ointment bases, the Laboratory of the AMERICAN PHARMACEUTICAL ASSOCIATION has undertaken an exhaustive study of the subject. The work is being carried on under the direction of Dr. Justin L. Powers, Chairman of the Committee on National Formulary and Director of the A. Ph. A. Laboratories, and Dr. Werner W. Duemling,

prominent dermatologist of Fort Wayne, Indiana, who has long been interested in this subject and whose papers before the American Dermatological Association and the American Academy of Dermatology and Syphilology have been outstanding.

In the laboratory of his clinic Dr. Duemling has developed a technique of adding dyes to the oil and water phases of an ointment and applying the ointment to the skin of an albino rabbit. Biopsies are performed at intervals of fifteen minutes, sectioned with a freezing microtome, and studied under the microscope to determine the rate and depth of penetration of each phase of the ointment. Dr. Duemling will represent the interests of the dermatologist in this work and it is hoped that his studies will develop information which will enable the dermatologist to prescribe ointment bases of known penetrating ability and he will then be able to prescribe one base for topical use where no penetration is desired, another when slight penetration is wanted, and still another when deep penetration is desired.

In the Laboratory of the AMERICAN PHARMACEUTICAL ASSOCIATION, in Washington, D. C.,

many of the formulas thus far suggested in the literature are being investigated and the various new emulsifiers are being studied. From this work it is hoped that a group of satisfactory ointment bases which any pharmacist can prepare in his prescription room will be developed.

All of the bases developed by the Laboratory will be turned over to Dr. Duemling for studies of their penetrating power and the final formulas will represent the results of these collaborative studies.

The work is already well under way. At the annual meeting of the American Academy of Dermatology and Syphilology held at the Waldorf Astoria Hotel, New York City, in December, Dr. Duemling presented a progress report on the study and the AMERICAN PHARMACEUTICAL ASSOCIATION exhibited samples of its work. The

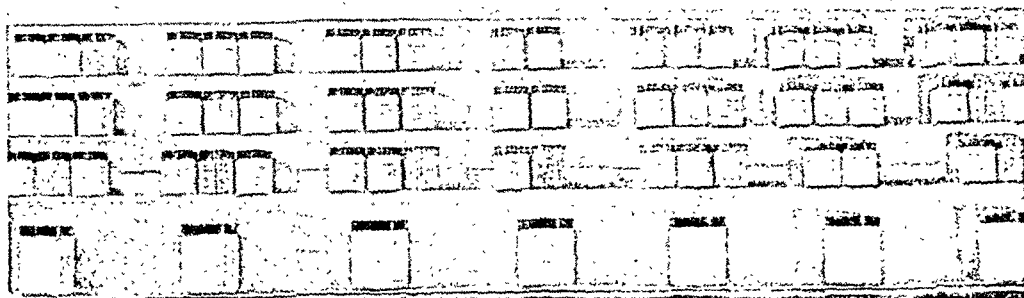
Dr. Justin L. Poers, Director of the Laboratory of the AMERICAN PHARMACEUTICAL ASSOCIATION (left) discussing the ointment study with Dr. Werner W. Duemling, prominent dermatologist of Fort Wayne, Ind., (right) who is collaborating in the work.



THE IDEAL OINTMENT BASE

In the Laboratories of the American Pharmaceutical Association, the various new ointment bases are being studied from the viewpoint of their adaptability for use in ointment bases, creams and lotions. It is hoped that this study will provide a group of vehicles which will be

1. Clean—wash off with water.
2. Stable and without incompatibilities
3. Therapeutically efficient—penetrating to the pathological process.
4. Non-greasy.
5. Odorless.
6. Non-irritating
7. Non-staining
8. Non-dehydrating.
9. Neutral in reaction.
10. Easily compounded by any pharmacist.



Part of the ointment base exhibit of the AMERICAN PHARMACEUTICAL ASSOCIATION at the recent meeting of the American Academy of Dermatology and Syphilology in New York City.

ASSOCIATION is indebted to Robert R. Gerstner, of New York City, who took charge of the exhibit during the meeting, assisted by Emerson C. Beeler of the A. Ph. A. Laboratory Staff.

The response of the part of dermatologists to the work was tremendous. The room in which Dr. Duemling spoke was filled to capacity and after his report dermatologists by the hundreds visited the A. Ph. A. booth to see the ointments which are under preliminary study.

Nearly one thousand copies of a seven-page summary of the ointment study, including formulas for all of the bases been studied, were distributed to dermatologists. Many of the formulas have appeared in previous issues of this JOURNAL, but in order that pharmacists may have the information at hand, all in one place, the formulas are published with this article. Dermatologists from every section of the country attended the New York meeting of the American Academy of Dermatology, took copies of the formulas, and many will wish to try one or more

of the bases which are being studied. It is therefore suggested that pharmacists familiarize themselves with the formulas.

Pharmacists will be kept informed of the progress of this study of "washable" ointment bases through this JOURNAL.

OINTMENT BASE NO. 4

(Gibson Base)

This base was suggested by A. J. Gibson, H. E. Parker and Anne Almus, of the Health Service Pharmacy, University of Michigan, in this JOURNAL (*Sci. Ed.*, 30 (July 1941), 196-201). It has the following formula:

Sodium lauryl sulfate.....	0.5
Cetyl alcohol.....	8.0
Cocoa butter.....	6.5
White petrolatum.....	20.0
Water.....	65.0

The base should be prepared without the water by melting the cetyl alcohol, petrolatum and cocoa butter over a water bath, adding the sodium lauryl sulfate, and stirring the mixture until cool.

In using this base 50 per cent of the finished ointment is to be water and the pharmacist makes his calculations accordingly. If, for example, 100 Gm. of an ointment containing 10 per cent of ammoniated mercury is to be prepared, the pharmacist would use

50 Gm. of water, 10 Gm. of ammoniated mercury and 40 Gm. of the base.

The base and the medication are rubbed up on an ointment slab and the water, previously warmed, is added in small amounts until a smooth cream results.

This base is compatible and "washable" with the following medication:

Phenol, 2 per cent
Whitfield Combination
Ichthammol, 10 per cent
Ammoniated Mercury, 10 per cent
Rectified Oil of Birch Tar, 5 per cent
Sulfur, 10 per cent
Burow's Solution, 5 per cent

It is incompatible with Balsam of Peru, 10 per cent. The finished ointment is not "washable" when the following medication has been incorporated:

Burow's Solution, 10 per cent
Rectified Oil of Birch Tar, 10 per cent
Sulfur, 15 per cent
Coal Tar, 5 per cent

OINTMENT BASE NO. 5

(U. of C. H. Base)

This base, the formula for which is a modification of the "Emulsifying Base" described by Mumford in the *British Journal of Dermatology and Syphilology*, 51, 271 (1939); 52, 271 (1940), has been used for the past two years by the University of California Hospital. It is about the most satisfactory preparation thus far studied.

It consists of the following:

Hexadecyl alcohol (Cetyl).....	6.4
Octadecyl alcohol (Stenol).....	6.4
Sodium Lauryl Sulfate*.....	1.5
White petrolatum.....	14.3
Liquid petrolatum.....	21.4
Water.....	50.0

Melt the alcohols together over a water bath at 65° C, add the sodium lauryl sulfate and stir well. Next add the white petrolatum and the liquid petrolatum and continue to heat the mixture until completely melted. Cool to room temperature and add the water slowly with constant stirring.

* Duponol ME dry or Orvus WA flakes are commercially available and suitable for use.

This base is compatible and "washable" with the following medication:

Phenol, 2 per cent
Whitfield Combination
Burow's Solution, 10 per cent
Ichthammol, 10 per cent
Rectified Oil of Birch Tar, 10 per cent

Sulfur, 15 per cent
Ammoniated Mercury, 10 per cent

It is incompatible, in that it separates on standing, with the following:

Coal Tar, 5 per cent
Balsam of Peru, 10 per cent

OINTMENT BASE NO. 6

This base, suggested by Dr. Werner Duemling, in *Archives of Dermatology and Syphilology*, 43 (1941), 264-278, consists of the following:

Ocenol KD.....	8.0
White wax.....	9.0
Sodium borate.....	0.2
Cetyl alcohol, technical.....	8.0
Duponol ME dry.....	0.6
Liquid petrolatum.....	17.0
Water.....	57.2

Heat the Ocenol KD, white wax, cetyl alcohol, Duponol and liquid petrolatum together to the melting point. Dissolve the sodium borate in the water and heat to the same temperature as the wax mixture. Add the aqueous solution to the wax mixture with constant stirring and stir until the mixture congeals. After the mixture has cooled, whip it to a white cream.

This base is compatible with the following medication:

Phenol, 2 per cent
Whitfield Combination
Sulfur, 15 per cent
Ammoniated Mercury, 10 per cent
Balsam of Peru, 10 per cent

It is incompatible with the following medication:

Rectified Oil of Birch Tar, 5 per cent
Ichthammol, 10 per cent (separates)
Coal Tar, 5 per cent (separates)

It is not "washable" when 5 per cent of Burow's Solution has been incorporated.

OINTMENT BASE NO. 7

This base was also suggested by Dr. Werner Duemling in *Archives of Dermatology and Syphilology*, 43 (1941), 264-278. It consists of the following:

Spermaceti.....	20.0
Paraffin.....	10.0
Liquid petrolatum (vis. 80 to 90).....	15.0
Cetyl alcohol.....	1.5
Duponol ME dry.....	1.0
Stenol.....	5.0
Distilled water.....	47.5

The spermaceti, paraffin, liquid petrolatum and cetyl alcohol are heated together to liquefaction

The Duponol ME dry and Stenol are dissolved in the water and heated to the same temperature as the fats and added to them with constant agitation to form a smooth, soft cream. The consistency can be varied by increasing or decreasing the amount of the waxes and liquid petrolatum.

The base is compatible with the following medication:

Ichthammol, 10 per cent
Sulfur, 15 per cent
Ammoniated Mercury, 10 per cent

It is incompatible with the following medication

Phenol, 2 per cent
Burow's Solution, 10 per cent
Rectified Oil of Birch Tar, 5 per cent
Balsam of Peru, 5 per cent
Whitfield Combination
Coal Tar, 5 per cent

It is not "washable" after Burow's Solution, 5 per cent, has been incorporated.

OINTMENT BASE NO. 8

This base is a modification of one suggested by Dr. Werner Duemling in *Archives of Dermatology and Syphilology*, 43 (1941), 264-278. It consists of the following:

White wax	11 6
Paraffin	10 6
Liquid petrolatum	42 2
Water	25 0
Aerosol OT, 25% aqueous	10 6

Melt the white wax and paraffin in the liquid petrolatum and heat the mixture to from 65° to 70° C. Heat the Aerosol solution in the water to the same temperature and add the wax mixture to the water solution with constant stirring and stir until congealed.

This base is compatible with the following medication:

Phenol, 2 per cent
Whitfield Combination
Ichthammol, 10 per cent
Ammoniated Mercury, 10 per cent

It is incompatible with the following medication:

Burow's Solution 5 per cent
Balsam of Peru, 10 per cent
Coal Tar, 5 per cent

It is not "washable" with the following:

Rectified Oil of Birch Tar, 5 per cent
Sulfur, 5 per cent

OINTMENT BASE NO. 10

This base was suggested in the *Du Pont Bulletin* for July 3, 1941. It consists of the following:

Stearic acid	14.0
Triethanolamine	0.7
Cetyl alcohol	3.0
Duponol C	0.5
Glycerin	5.0
Water	76 8

Melt the stearic acid and cetyl alcohol in the triethanolamine and heat to from 65° to 70° C. on a water bath. Dissolve the Duponol and glycerin in the water, heat to from 65° to 70° C. and add to the melted fats with constant stirring. Continue heating and stirring for 10 minutes and cool gradually without stirring.

This base is compatible with the following medication:

Phenol, 2 per cent
Whitfield Combination
Rectified Oil of Birch Tar, 10 per cent
Sulfur, 15 per cent
Ammoniated Mercury, 10 per cent
Coal Tar, 5 per cent
Balsam of Peru 5 per cent
It is incompatible with the following:
Ichthammol, 5 per cent
Balsam of Peru, 10 per cent
Burow's Solution, 10 per cent

OINTMENT BASE NO. 13

This base was suggested by N. F. Sorg and J. W. Jones, of the College of Pharmacy, State University of Iowa, in this *JOURNAL*, 2 (October 1941), 400-402). It consists of the following:

Glyceryl monostearate	15
Cetyl alcohol	15
Glycerin	35
Diethylene glycol	35

The ingredients are heated together until all of the solid particles are melted and it is then stirred slowly until cool. The original formula was modified in the A. Ph. A. Laboratory by incorporating water into each ointment as indicated in the parentheses below. The amount of water added was governed by the consistency of the finished ointment.

This base is compatible with the following medication:

Phenol, 2 per cent (42% water in final ointment)
Rectified Oil of Birch Tar, 10 per cent (30% water in final ointment)
Sulfur, 15 per cent (37% water in final ointment)

Ammoniated Mercury, 10 per cent (45% water in final ointment)
 Coal Tar, 5 per cent (32% water in final ointment)
 Burow's Solution, 10 per cent (no water added to final ointment)
 Balsam of Peru, 10 per cent (12% water in final ointment)

It is incompatible with the following:

Whitfield Combination

Sources of supply of the materials used are as follows:

Procter and Gamble, Cincinnati, Ohio
 Orvus WA

E. I. DuPont de Nemours, Wilmington, Del
 Duponol ME, dry
 Duponol C
 Ocenol KD
 Stenol
 Cetyl alcohol
 American Cyanamid and Chemical Corp.,
 New York, N. Y.
 Aerosol OT
 Glyco Products Company, New York, N. Y.
 Glyceryl monostearate
 Diethylene glycol
 Carbide and Carbon Chemicals Corp., New
 York, N. Y.
 Triethanolamine

FEBRUARY 4, 1942 NAMED

NATIONAL SOCIAL HYGIENE DAY

WEDNESDAY, February 4, 1942 has been named National Social Hygiene Day by The American Social Hygiene Association, and will be observed throughout the country by meetings, radio broadcasts, and special publicity in newspapers and other periodicals.

With the theme, "Keep America Strong, Help Build Better Health," this year's observance will direct special attention toward the full realization of the menace of organized prostitution in areas adjacent to concentrations of armed forces and in industrial centers. State and local pharmaceutical associations are urged to assist in promoting the campaign and in focusing attention on the Day. Special folders and other material may be secured by addressing a request to the American Social Hygiene Association, 1790 Broadway, New York City.

FISCHELIS NAMED DIRECTOR

Dr. Robert P. Fischelis, of Trenton, N. J., chairman of the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION, has been elected to the Board of Directors of the American Social Hygiene Association recently. As chairman of the Joint Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Social Hygiene Association, Dr. Fischelis has taken an active part in the venereal disease educational

program in coordinating the efforts of State pharmaceutical associations and individual pharmacists in the attack on syphilis and gonorrhea.

"New army camps and movement of defense workers make the need for vigorous action by all pharmacists in the control of venereal diseases more acute to-day than ever before," Dr. Fischelis said.

"A tremendous percentage of cases of venereal disease seek out the pharmacist first. Ignorant of the seriousness of these diseases, and the importance of prompt, competent treatment, these unfortunate individuals take the pharmacist aside for whispered conversations in the hope that he will recommend a doctor who has a quick cure or sell them something that will cure the disease.

"This factor alone makes the pharmacist one of the most important individuals in the effectiveness of the current national program for venereal disease control. Pharmacy, as a profession, has enrolled in this campaign through the Joint Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Social Hygiene Association. Pharmacists have a professional responsibility to perform a vital service in this important public health activity."

Dr. Fischelis pointed out that all pharmaceutical groups in the country have volunteered their active cooperation in the venereal disease campaign.

A SIMPLE, FLEXIBLE

PRESCRIPTION PRICING SCHEDULE

by R. P. CLAYTON and E. A. SWINYARD

COLLEGE OF PHARMACY, UNIVERSITY OF IDAHO, SOUTHERN BRANCH

NATIONAL UNIFORMITY IS IMPRACTICABLE BUT HERE IS A PRICING TABLE THAT CAN BE ADJUSTED TO MEET THE ECONOMIC CONDITIONS OF DIFFERENT COMMUNITIES

IT IS not a new fact that the prescription departments in a great many pharmacies are in a state of confusion due to lack of organization in their prescription pricing. The seriousness of the problem to the independent pharmacist is clearly shown by the following figures. Of the 53,159 drug stores in the United States, 3,499 or 6.6 per cent of them are chain store units and do 23.2 per cent of the total volume of the retail drug business; however, they fill only 8.9 per cent of the total number of prescriptions. This shows that 64 per cent of all chain store users are potential customers for the independent prescription services.

It has been estimated that the prescription department is the third largest department in the average independent drug store and accounts for 15 per cent of the total volume and produces 70 per cent to 80 per cent of the net profit. If this be true, it seems that this particular department is well worth looking into. If profit comes from the prescription room, it most certainly comes from the prices charged for the prescriptions filled. It has been demonstrated that proper control and mark-up go a long way toward making a uniform profit in retail business. There is no reason why the same control and mark-up should not be applied to the prescription department, the most profitable department in the drug store.

Let us look at a typical drug store. A customer enters with a prescription to be filled, hands it to the pharmacist, and states that he will wait for it. The pharmacist takes the prescription, fills it carefully, labels it, then ponders how much to charge for it. The containers from which

some of the ingredients were taken bear no cost mark. The customer is waiting, so the pharmacist feels that he has no time to look up the price. It is a four-ounce liquid mixture, and as the usual price is 25c per ounce for preparations of this kind, a charge of \$1.00 is made. Later, upon checking on the price of the unmarked containers, it is found that the total cost of the prescription ingredients, not including container, labeling and time, is 80c. The result is that the profit on this transaction is exceedingly small.

The store was careless not to have all containers clearly marked with the cost of the contents; however, merely knowing the price of the ingredients would not prevent the pharmacist from establishing a price by guess. It is an established fact that, after spending four years of intensive study and a tremendous sum of money to become a skilled professional man, the majority of pharmacists guess at the prices charged for their professional services.

The experience of the authors in the field of retail pharmacy has given them ample opportunity to note the need of price stabilization in the prescription department. When a new pharmacist is employed the first thing that he wants to know is how the particular store arrives at the prices charged for the prescriptions it fills. The answer he receives is vague for the only true answer is that they are priced at random. How much better it would be if, when this question is asked, the person in charge could present the newcomer with a clear, simple, pricing schedule from which all the needed information might be had at a glance. This would stabilize the prices within the individual store, and this is the foundation upon which this work must be built. Obviously it would be useless to attempt to establish uniform prices within a city, community, state, or section without first having the individual stores consistent within themselves. When this first step is accomplished the movement can be advanced on a larger basis, such as sectional or regional stabilization.

The impracticability of establishing national uniformity of prescription prices is indicated by

Presented before the Section on Pharmaceutical Economics, A. Ph. A., Richmond meeting, 1940.

a survey which shows the average cost of a prescription to be 72c in rural districts and \$1.09 in metropolitan areas. This indicates the need of a schedule, such as we offer here, which can be readily adapted to any section or community in which the economic conditions are fairly uniform. The prices used in this schedule have been arrived at after a thorough study of local prescription prices. Local pharmacists have cooperated to the extent of allowing free access to prescription files and prices. Our schedule is shown with this article.

No more than a hurried glance at this schedule will reveal to the observer its flexibility and simplicity. By merely making a small adjustment of the compounding fee to meet local or sectional economic conditions, the schedule will fit almost any circumstances. It should be noted that the pharmacist is always assured of his normal margin of profit, $33\frac{1}{3}$ per cent on the selling price, plus the professional fee and the compounding fee, all of which he rightfully deserves. It will be seen at once that, by evaluating the professional fee at a reasonable figure and adjusting the compounding fee to meet economic demands, it would be a simple matter to establish stabilized prescription prices in a given section, under which all pharmacists would enjoy a profit.

This problem of pricing is not one which can be solved by a few individual pharmacists, but one which requires the coöperation of all the fighting forces of pharmacy—including national associations, state associations and pharmacy schools. Although the national associations cannot reach the individual pharmacist, their efforts in stimulating the various state associations would be of definite value.

It is the duty of the pharmaceutical associations of every state to accept the responsibility of helping to put this movement into operation. It is for them to familiarize the pharmacists in their associations with the value of such a movement and help them to see the ultimate outcome. They should circularize the pharmacists and also give the problem a prominent place in their individual state conventions. It is for these associations to provide their members with a means whereby this end might be accomplished. It is the duty and obligation of the pharmacists, after receiving this means, to take steps in the direction of stabilizing prescription prices in their individual stores, for they must be consistent within themselves if the plan is to work out. After each

proprietor has done his part and stabilized the prices within his store, then it is time to adopt a schedule whereby such stabilization can be applied to sections and regions.

It is the duty of all pharmacy schools to train their students along the line of stabilized prescription prices and to impress upon them the need and eventual possibilities of such a movement. That the pharmacy schools are very much neglecting this phase of pharmacy is evidenced by the recent survey on "Dispensing Pharmacy in American Universities" by the Problems and Plans Committee of the American Association of Colleges of Pharmacy. Out of twenty-one schools giving a definition of dispensing pharmacy, only four even mentioned pricing as a part of the curriculum. One of these stated, "Pricing of prescriptions and homeopathic pharmacy are considered," indicating that this school considers pricing of prescriptions no more important than a study of homeopathic pharmacy. Out of the nineteen schools stating their objectives in dispensing pharmacy, only two indicated pricing as part of their objective. The attitude of pharmacy schools toward prescription pricing is indicated in the following quotation from the same article. "Lecture material is given on prescription pricing but no actual work." At least one school recognized the problem as is evidenced by the following quotation: "Prescription pricing discussions are as potentially explosive as an argument about politics or religion. Our students work in stores, where, for the most part, the price of a prescription is estimated, guessed at, or priced a little below what other druggists are suspected of charging. On our senior files we have prescriptions which were priced (by druggists who dispensed them) below actual cost as of date of filling. I contend that the average druggist does not respect himself nor his profession sufficiently to make adequate charges for his services, knowledge, responsibility and materials. Colleges can do much to make students conscious of their professionalism and to realize that it is only honest, just and their duty to themselves and their profession to charge properly for their compounding services."

To graduate a student without giving him some information on pricing of prescriptions is much the same as giving him a course in chemistry without offering any laboratory work. I might also be likened to teaching a person to fly an airplane by lecturing to him and then turn

ing him loose to fly one without any actual experience. For these and other reasons, colleges of pharmacy should consider this problem in a more practical and serious manner.

State associations and organizations can do for the practicing pharmacist what the colleges of pharmacy can do for the student. Persons who have been engaged in the practice of retail phar-

THE UNIVERSITY OF IDAHO COLLEGE OF PHARMACY PRESCRIPTION PRICING SCHEDULE

In arriving at the price of a prescription by means of this schedule three factors are considered

1. Compounding fee, C, covering labeling, filing, assembling, weighing, checking, and the cost of the container.
2. Professional fee, P, which is based on the number of doses, nature, character of the prescription, and the skill and care required in compounding.
3. Selling price, S, which is the selling price of the ingredients

Example: $C + P + S =$ Selling price of prescription.

SCHEDULE

C—Compounding fee—35¢ on preparations requiring compounding
—25¢ on ready-made preparations

P—Professional fee

Capsules	1¢ per dose
Charts	1¢ per dose
Emulsions	1¢ per dose
Eye Drops	1¢ per cc
Eye Washes	1¢ per 2 drams
Liniments	1¢ per 2 drams
Lotions	1¢ per 2 drams
Mixtures	1¢ per dose
Nose Drops	1¢ per 2 cc
Nose Sprays	1¢ per 2 cc.
Ointments	2¢ per dram
Ointments, Ophthalmic	15¢ per dram
Paints (e. g., Sol. Gentian Violet)	1¢ per 2 cc
Pills	1¢ per dose
Powders, Bulk	6¢ per ounce
Powders, Douche	6¢ per ounce
Powders, Dusting	3¢ per ounce
Powders, Folded	1¢ per dose
Solutions, Drop Medication	1¢ per 2 cc
Solutions, Vaginal	3¢ per dose
Suppositories	1¢ each
Tablets	1¢ per dose
Throat Gargle (Low Dilution)	1¢ per 4 fl. dram
Throat Gargle (High Dilution)	1¢ per fl. dram
Throat Swab	1¢ per 2 cc
Urethral Injection	12¢ per ounce

S—Selling price of ingredients

Considered to be 33 1/3 per cent on the selling price

5¢ minimum per liquid or solid ounce

2¢ minimum for contents of one hand-made capsule, chart, pill, suppository, etc

NOTE: CHARACTERISTIC ORIGINAL PACKAGES AND EXCEPTIONALLY HIGH-PRICED PROPRIETARIES CANNOT BE SCHEDULED

macy for a few years usually forget that they are professional people who have undergone the hardships and sacrifices accompanying earning a degree. When this happens they are permitting themselves to slip from the field of professionalism into the realm of ordinary business men or common laborers. It is an actual fact that to-day the mechanic who tinkers with pieces of iron and steel in attempting to make an automobile or some other mechanical device run, charges more for his time and services than does the pharmacist in whose hands rests a responsibility far greater than that of the mechanic. Upon his ability and skill depends the health, and sometimes even the lives, of his fellowmen. Certainly a human life is of much greater importance than some mechani-

cal object which can be replaced if not repaired. Why, then, should he not be paid as much, if not more, for his time as the individual who shoulders no such responsibility? The pharmacist should strive to keep the professionalism he has rightfully earned. He should keep his profession on a par with that of the doctor, the lawyer, the dentist, or the nurse, all of whom charge well for their services. It is true that the retail pharmacist is selling drugs, but the compounding of these drugs requires him to exercise the skill he has paid dearly to acquire. He is entitled to his normal profit on the merchandise, a fair compounding fee and a professional service charge commensurate with the dignity of his profession.

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The Board of Trustees of the United States Pharmacopoeia Convention has announced that the adjourned meeting of the U. S. P. Convention will reconvene at the Statler Hotel, Cleveland, Ohio, on Tuesday, April 7, 1942. The Convention will receive, discuss, and amend a proposed new Constitution and By-Laws on which a special committee has been working for the past year and a half.

One hundred and forty pharmacists and their wives paid tribute to Dr. Leonard A. Seltzer, Detroit pharmacist, at a testimonial dinner tendered in his honor in that city by the Detroit Branch of the AMERICAN PHARMACEUTICAL ASSOCIATION.

Dr. Martin Hill Ittner, chief chemist and in charge of research of the Colgate-Palmolive-Peet Company, Jersey City, has been named as the recipient of the Perkin Medal for 1942 for "outstanding work in applied chemistry."

Dr. Theodore G. Klumpp, former Chief of Drug Control of the Federal Food and Drug Administration, has been elected President of Winthrop Chemical Company, Inc., an affiliate of Serling Products (Incorporated). Dr. Klumpp is a Fellow of the American College of Physicians and a member of the American Society for Clinical Investigation and recently has been Director of the Division Foods, Drugs, and Physical Therapy of the American Medical Association and secretary of its Council on Pharmacy and Chemistry.



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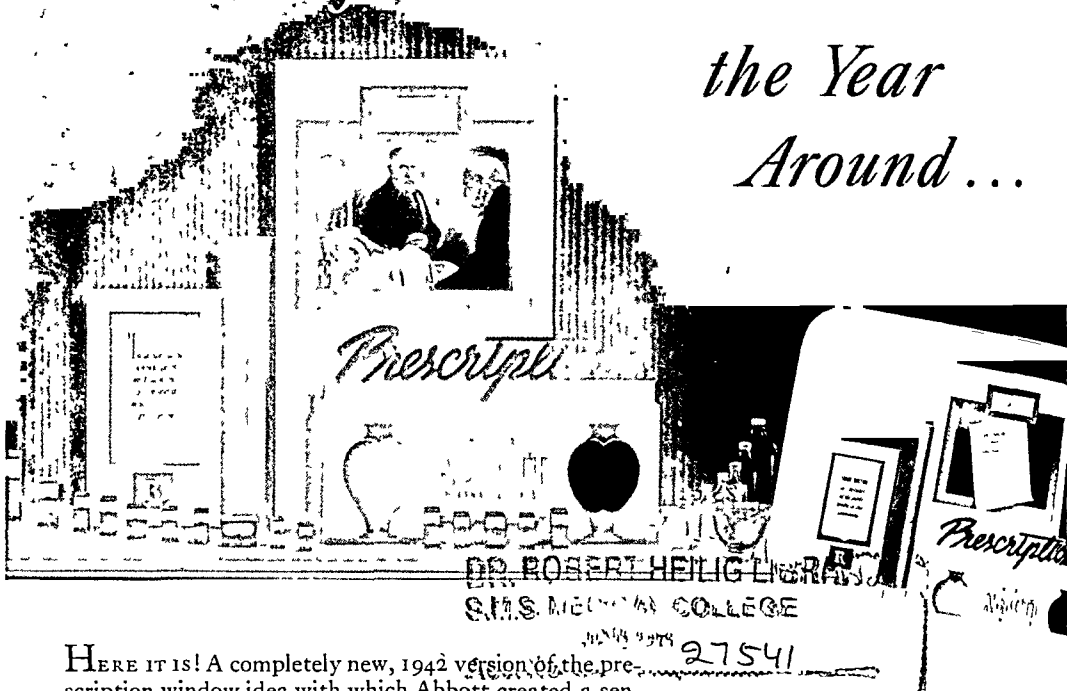
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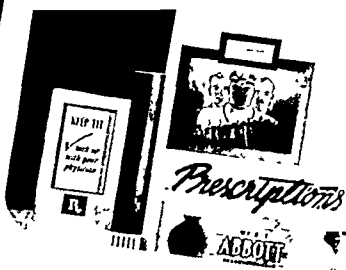
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E PHARMACEUTICAL ASSOCIATION

VOL. III, NO. 1

JANUARY 1942

CONSECUTIVE NO. 2

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*Practical
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SUPPLYING THE ARMY'S NEEDS

UNDOUBTEDLY the most important single problem facing the profession of pharmacy to-day is that of supplying men to the armed forces of the nation. On this country's ability to raise an adequate Army rests the destiny of the nation and on this profession's ability to provide its share of the needed manpower wisely may depend the destiny of pharmacy for years to come.

Elsewhere in this issue the Assistant to the Surgeon General of the U. S. Army advises that an Army of 3,600,000, such as is now under consideration, will require approximately 5000 men in the performance of pharmaceutical services. These ranks will be filled, as far as possible, with pharmacists who are conscripted under the Selective Service and Training Act or who enlist and the balance will be made up by pharmacy technicians trained in the Army technical schools. Approximately 1000 pharmacists and pharmacy technicians are in the Army at the present time.

Although it is impossible to determine in advance exactly how many pharmacists will be conscripted under the amended Act, studies in a few states indicate that 4000 to 6000 members of this profession may be classified as IA and be called to service.

The problem of pharmacy is (1) to assist Selective Service agencies in obtaining pharmacists with as little disruption to civilian pharmaceutical service as possible, (2) to take such steps as are necessary to compensate for the

withdrawal of manpower from the profession and (3) to guard against precipitous action which might tend to lower educational standards or flood pharmacy with an oversupply of men when the war is over.

If 4000 to 6000 men were taken out of the practice of pharmacy indiscriminately the results undoubtedly would be disastrous, but if they are taken from those areas which can spare them the situation will be far less serious. Pharmacy, as with every other profession, suffers from maldistribution. Some cities have a pharmacy on every one of the four corners of certain intersections with a few more in the middle of the block while in some sections of the country whole counties do not have a single pharmacy. In some cities there may be one pharmacy for each 1,500 people while in rural areas there may be only one pharmacy for each 3,500 people. The application of a sound formula to determine the pharmaceutical needs of a community and the number of pharmacists required to supply the necessary professional services will provide the Army with the men it needs and yet not cause undue hardship on the civilian population. It is up to State Pharmaceutical Associations to assist their

State Defense Councils in developing such formulas and to advise them on their application.

What steps should be taken by the profession to compensate for the number of pharmacists who will be drafted? For one thing, it may be necessary to decrease the

THIS MONTH'S COVER

Symbolic of the several thousand pharmacists who are being called to service in the armed forces of the country is John Willard Albright, Pharmacist's Mate 2nd Class, of the U. S. Naval Air Station, Corpus Christi, Texas, shown operating an electrocardiograph at the naval hospital. He was graduated by the School of Pharmacy, University of Oklahoma, in June 1941.

U. S. Navy Official Photo.

number of hours that pharmacies are open in order to compensate for lack of relief men and pharmaceutically trained employees. Some pharmacies have already adopted earlier closing hours and the subject is under rather general consideration at the present time. It is entirely possible that pharmacies in some localities may have to share the services of a pharmacist. It may be necessary to employ non-pharmaceutically trained individuals to a greater extent to manage certain departments of the pharmacy so that the pharmacist can devote his entire time and attention to professional duties.

In certain areas it will probably be necessary for pharmacists to close their pharmacies when they are conscripted but, if a sound formula is used in the selection of men, these pharmacies will be those which can be spared with the least disruption of pharmaceutical services.

The coöperation of other pharmacists in the neighborhood in assisting such pharmacists in the liquidation of their pharmacies is a patriotic obligation.

It is important that the deferment of pharmacy students who are doing acceptable work be continued in order to maintain the

flow of men and women into the profession. On the present basis, some 2600 pharmacists die, retire because of age or leave the practice of the profession each year while less than 1700 pharmacists are being graduated by the colleges each year and this will make the situation of ever increasing acuteness. The colleges of pharmacy are studying the advisability of accelerating the training of students by the adoption of a three-year continuous course of instruction.

Such steps as are taken to guide the destinies of pharmacy through this crisis should be deliberate, although they will have to be taken as promptly as possible. The whole structure of this profession rests on its high educational standards and its exacting requirements for licensure and practice. These must not be compromised by the adoption of an unnecessarily extreme program. If our standards were lowered it would take years to restore them. It is not sufficient, however, merely to say, "we will maintain our standards;" it is up to the profession to take such steps as will provide the Army and the civilian public with the pharmaceutical personnel they need without making it necessary to lower standards.

SCHEELE BICENTENNIAL YEAR

THE year 1942 marks the two hundredth anniversary of the birth of Carl Wilhelm Scheele, Swedish pharmacist extraordinary. Almost fantastic is the record of his contributions to pharmacy and chemistry at a period when these two sciences were intimately associated. In a little more than a decade Scheele discovered tartaric acid, phosphorus, potassium permanganate, manganese dioxide, barium oxide, chlorine, arsenic acid, benzoic acid, oxalic acid, uric acid, oxygen, hydrogen sulfide, lactic acid, citric acid, malic acid, gallic acid, pyrogallol, and glycerin in addition to introducing many improvements on pharmaceutical preparations.

Many have been the contributions of men who have been trained as pharmacists and who then branched out into other fields.

What makes Scheele's work particularly interesting, however, is the fact that all of his discoveries were made in the laboratories of retail pharmacies in which he worked.

The AMERICAN PHARMACEUTICAL ASSOCIATION plans to give suitable recognition to Scheele on the occasion of the bicentennial of his birth. Pharmacy and chemistry were closely allied in Scheele's day but each has made its separate way during the years between 1742 and 1942. To-day, however, with the introduction of sulfonamide drugs, and other chemotherapeutic agents, the two sciences are more and more appreciating their interdependence and are fast closing the gap between their paths which never should have been allowed to develop. Thus the Scheele Bicentennial this year will have more than ordinary significance.

U. S. OFFICE OF CIVILIAN DEFENSE AUTHORIZES DEFENSE MANUAL FOR PHARMACISTS

RECOGNIZES THE SERVICES AND FACILITIES OF PHARMACIES IN APPROVING SUGGESTIONS OF AMERICAN PHARMACEUTICAL ASSOCIATION; DESIGNATION AS "PHARMACEUTICAL UNITS" IS SUGGESTED FOR THOSE WHO QUALIFY THEIR PHARMACIES WITH STATE ASSOCIATIONS

A SIXTEEN-point program for the utilization of the services and facilities of the country's pharmacies in civilian defense plans has been approved by Corrington Gill, Deputy Director in Charge of Operations, of the U. S. Office of Civilian Defense, Washington, D. C. The program, prepared by the AMERICAN PHARMACEUTICAL ASSOCIATION, appears on the following pages of this issue of its JOURNAL in the form of a Manual for Pharmacists, and reprints will be available in quantity to State Pharmaceutical Associations at cost. The Manual is based on Memorandum No. 7 issued by Dr. George Baehr, Chief of the Emergency Medical Services of OCD, plans suggested by various State Pharmaceutical Associations, and experiences of British pharmacists under bombing attacks.

The Manual points out that the problems of each state, city, and community in civilian defense differ and that no single plan is applicable to all conditions, but it proposes a comprehensive program of services, all or part of which any community may look to pharmacists to render.

The Manual explains the organization of civilian defense services, the organization of emergency medical services, explains why pharmacies are unsuitable sites for first aid posts in which the public would receive treatment, and outlines the important place which the pharmacist should fill in his community's program.

Pharmacists are asked to do everything within their power to familiarize the public with the Emergency Medical Services which have been organized to treat civilian injuries in the event of a disaster. They are asked to place signs in their pharmacies listing the location of Warden's Posts, Police and Fire Stations, Shelters and Casualty Stations and instructing the public to obtain first aid treatment at authorized First Aid Stations or Casualty Stations. Nevertheless, the fact that the pharmacist may be asked to assist the physicians in First Aid Posts and Casualty Stations during an air raid is recognized in the Manual and pharmacists are asked to prepare themselves by taking Red Cross First Aid Courses and to set up emergency kits of essential drugs and supplies to be instantly available when the occasion demands their use.

Pharmacists are advised not to use any combination of terms already used to designate First Aid Posts, Casualty Stations, Medical Depots, Information Centers, or Volunteer Offices. The designation "PHARMACEUTICAL UNIT" meets these requirements and is acceptable to the Office of Civilian Defense.

Pharmacists are asked to post a notice of the location of shelters, warden's posts and other units of the Civilian Defense organization; distribute informative booklets issued by the Office of Civilian Defense; equip their pharmacies with

radios; register the refuge facilities of their pharmacies; register their telephone facilities; register their delivery trucks; and to use their influence in their communities to bolster civilian morale.

Now, with the approval of the U. S. Office of Civilian Defense, pharmacists have the general basis for developing a program to give the public the benefit of coordinated pharmaceutical services in an emergency.

PHARMACEUTICAL UNIT

REGISTERED WITH THE (STATE) PHARMACEUTICAL ASSOCIATION



The designation PHARMACEUTICAL UNIT has been approved by the U. S. Office of Civilian Defense for pharmacies which qualify under this program.

MANUAL
for
PHARMACISTS
in
CIVILIAN DEFENSE



Prepared and published by the
AMERICAN PHARMACEUTICAL ASSOCIATION

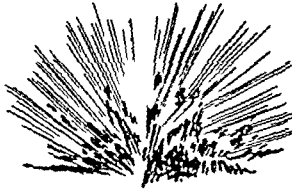
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U.S. OFFICE OF CIVILIAN DEFENSE
Washington, D. C.



ORGANIZATION OF THE

CIVILIAN DEFENSE SERVICES

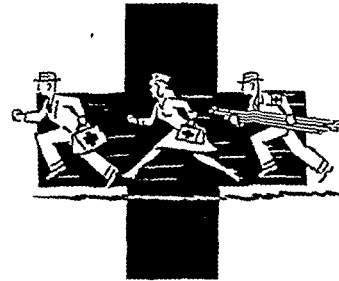
THE protection of life and property in the event of an air raid bombing or other catastrophe demands the assistance of civilian groups to supplement the ordinary protective services of the community. The American people are being asked to volunteer to perform services for which they are qualified by training or special interest. The present organization for Civilian Defense includes such functional groups as the following:



plan it needs to meet its particular requirements for emergency defense. A factory town, a residential community, a city located near an ammunition plant each presents a different problem of protection and no one general plan can be expected to meet these varying requirements. The

U. S. Office of Civilian Defense has laid out general plans, however, and individual states, cities, and communities are to use these as the basis on which to work out the details of their respective plans.

1. Fire Fighting Services
2. Police Services
3. Medical Services
4. Public Works
5. Utilities
6. Maintenance of Vital Services
7. Public Relations and Education



Each state, city, and community is charged with the responsibility of working out the details of the

ORGANIZATION OF EMERGENCY MEDICAL SERVICES

The Medical Division of the Office of Civilian Defense has developed basic plans for emergency services to be rendered by physicians, nurses and volunteer first aid workers. The plan centers around the hospital as a basic unit. When a disaster occurs, the Commander of the Control Center will direct Emergency Medical Squads to man their designated Casualty Stations, and from these stations Emergency Medical Teams will go to the scene of the incident to set up First Aid Posts. The medical and nursing personnel of the First Aid Posts examine injured persons, giving emergency

first aid treatment, and see that the most severely injured are given priority transportation back to the hospital. Slightly injured persons are sent back to the Casualty Station where they receive appropriate treatment and are kept under observation until they can be sent home or to places of temporary shelter. If enemy action is prolonged, the practicing physicians of the community serve as "Incident Doctors" and alternate on duty at the Casualty Station and First Aid Posts so that the Field Unit may return to the hospital.

THE PLACE TO RECEIVE FIRST AID

In the event of a disaster, the places at which the public should receive first aid treatment are the **FIRST AID POSTS** and the **CASUALTY STATIONS**, *not the retail pharmacy*. Pharmacists should do everything within their power to emphasize this point to the public. Don't wait for the disaster to happen to so advise the public; post a sign in a conspicuous place in your pharmacy *now* reading as shown at the right.



IN AN EMERGENCY

The Emergency Medical Service has been organized to give immediate attention to civilian injuries. The following sites in this neighborhood have been designated as Casualty Stations:

Emergency Medical Teams operating from these Casualty Stations will establish First Aid Posts at the scene of the disaster.

*The place for you to receive first aid treatment is the **FIRST AID POST** or the **CASUALTY STATION**.*

WHY PHARMACIES ARE UNSUITABLE AS EMERGENCY FIRST AID UNITS

There are two important reasons why retail pharmacies are unsuitable for use as first aid units at which the public would receive treatment:

1. The large amount of glass present in show-cases and in bottles on shelves make the pharmacy one of the most dangerous spots to be in during a bombing or an explosion. Many pharmacies in England have been reduced to shambles even though they were not directly hit by bombs. When a

bomb explodes in a business area it is usually the pharmacy which receives the greatest amount of damage as a result of the explosion.

2. The average pharmacy does not have sufficient unimpeded floor space to permit the treatment of any sizeable group of injured persons—there are many more suitable places in every community which also provide safety, shelter, water, and adequate sanitary facilities.

THE PHARMACIST'S PLACE

The special training of the pharmacist and the facilities of his pharmacy, however, have a real place in the Civilian Defense Program. How best they may be utilized depends upon the needs and facilities of the particular community. The town

in which a hospital is located will require less of the pharmacist's services than the town which is ten or fifteen miles away from the nearest hospital. The town with six physicians will require less assistance from the pharmacists than the town with one physician. Depending upon its needs, therefore, a community may look to the pharmacist for part or all of the following emergency services.

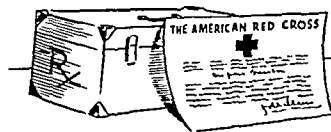


when an accident occurs will undoubtedly lead some individuals to disregard instructions and go to the nearest pharmacy for first aid. Air raid injuries are of extreme gravity. A large percentage of the injured are killed or die soon after; most of the remainder require prompt hospitalization. Even an apparently slight injury may prove serious. Pharmacists are, therefore, urged by the Office of Civilian Defense to offer their services during an emergency to the physicians at the First Aid Posts and Casualty Stations and to work only under their direction at these sites.

To be qualified to render such emergency aid, the pharmacist should hold a Red Cross First Aid Certificate and, to be prepared to render such emergency aid, he should have instantly available, in one kit, a supply of those drugs and supplies which might be required. A list of the items which should be included in such a kit may be found on Page 12 of this Manual.

Despite every effort that will be made to impress the public that in an emergency the place to receive first aid treatment is the CASUALTY STATION or FIRST AID POST, the fact that the American Public has always thought of "the drug store first"

Despite every effort that will be made to impress the public that in an emergency the place to receive first aid treatment is the CASUALTY STATION or FIRST AID POST, the fact that the American Public has always thought of "the drug store first"



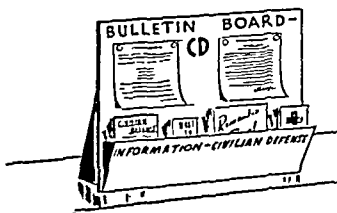
SUPPLYING ACCURATE INFORMATION

Every community needs a convenient point at which information concerning Civilian Defense matters is available. The strategic location of retail pharmacies, the fact that they are open during the greater part of the day and evening and the frequency with which they are visited by members of the community make them well suited to serve as agencies for the exhibition of official OCD placards and the distribution of official printed matter issued by the State and Local Defense Councils.

The pharmacist should obtain a suitable rack to hold such leaflets, folders, and similar ma-

terial and place it in a conspicuous spot on his counter. He should familiarize himself with the location of shelters, warden's posts, Casualty Stations, and other units of the Civilian Defense organization and he might post this information at a suitable spot in his pharmacy.

The American people have always looked to the pharmacist for public health information such as how to purify water, etc. An emergency will create additional health problems on which they will need reliable information. The pharmacist should work closely with his local Chief of Emergency Medical Services on these problems.



DESIGNATION OF PHARMACIES

The U. S. Office of Civilian Defense contemplates the distribution of an official designation for all agencies, including pharmacies, which are cooperating in the civilian defense effort. As stated in Medical Division Memorandum No. 7 of OCD, pharmacies should not use any placards or other designations which might cause the public to confuse the pharmacy with First Aid Posts, Casualty Sta-

tions, Medical Depots, Information Centers, and Volunteer Offices or which use any combination of these terms. The designation **PHARMACEUTICAL UNIT**, Registered With The (state) Pharmaceutical Association, meets these requirements and is acceptable to the Office of Civilian Defense. See Page 12 of this booklet for suggested placard.

OTHER SERVICES PHARMACISTS CAN RENDER

The pharmacist can render such services as the following:

1. Register his pharmacy with the Air Raid Warden of his immediate area, indicating the refuge facilities he has available. Cellars which have outside entrances may be used for refuge purposes if space is available and not occupied by inflammable or explosive material such as benzene, gasoline, oxygen, etc.

2. Register his telephone facilities with the Director of Communications of his local Civilian Defense organization for use as a part of such

emergency communications systems as may be set up.

3. List his delivery truck with the Director of Transportation of his local Civilian Defense organization for emergency use.



MAINTAINING CIVILIAN MORALE

This war will be won by the efforts of clear thinking, level-headed men and women who allow nothing to rob them of their efficiency and capacity to contribute time, thought, and energy to their jobs. War-jitters, fed by gossip and rumor, disrupt the civilian population and cut in half its productive ability. No one can do his best work if he is emotionally upset, mentally befuddled, and panicky.

The enemy knows this and wages a war of nerves as well as a war of actual combat. If the enemy can break down the civilian morale of the country by circulating rumors, the war is half won. The war of nerves can be defeated if those in whom the public has confidence will "debunk" gossip and rumors and provide the reassurance necessary to stabilize their emotions. This is a task for the neighborhood pharmacist in whose word the public has the greatest respect. The confidence of the public has always been the most important requisite of the successful practice of pharmacy. You have spent years developing this close relationship with your patrons; now is the time to put it at the service of your country. A word from you will reassure the scores who enter your doors daily.

Those who lead the Army and Navy of this country have made it their life's work. They studied tactics and maneuvers when you were

studying incompatibilities and structural formulas. They have spent years in training for just exactly the work they are doing now. Neither you nor anyone else in your community knows what American brains and skill have developed in equipment and methods for war. More than that, we won't know until the war is won exactly how it was done. Necessarily the Army and Navy must cloak their moves with the utmost secrecy, but don't misinterpret lack of information as a lack of action. Discount any and all "inside stories" you hear—those who are in a position to know what is going on are not talking in confidence, or "off the record." When a customer tells you he has been told something "on good authority," don't start an argument but point out that from your knowledge of affairs it is impossible for any one to have such confidential information. Urge



him not to believe it nor to spread stories which are unsubstantiated. You are justified in telling him that no one really comprehends the tremendous power and strength of this country's air, land, and sea forces.

Make it a point to read your newspaper and listen to your radio critically. Learn to differentiate

from the stories which are "reported" or "unconfirmed," and those which are official and dependable. Let your customer realize that you are right up-to-the-minute on facts but that you put no weight on rumors.

You can be a pillar of strength in your community if you will serve your country in this manner.

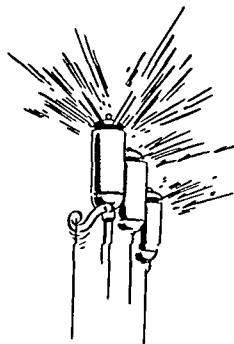
ANTICIPATING AN AIR RAID

Pharmacists should work out the procedures which they will follow in the event of an air raid in their communities. Each member of the pharmacy's staff should have definite tasks assigned to him and he should be drilled in performing them quickly and efficiently. Among such tasks are the following:

1. When the air raid warning sounds there may be customers in the pharmacy. They must be guided to a safe shelter. This is a matter which should be discussed with the Air Raid Warden in the area in which the pharmacy is located. He will point out the nearest, suitable shelter and it should be the responsibility of one member of the pharmacy's staff to take charge of guiding customers to that refuge.

2. In the event of an air raid, glass showcases should be protected to minimize flying glass, and loose displays should be removed from the tops of counters. These tasks should be assigned to certain members of the staff.

3. The pharmacist should discuss with his Air Raid Warden the type of protection advised for



store windows. It should be the responsibility of one member of the staff to put in place such protection devices as are recommended.

4. Consultation with the local Chief of Emergency Medical Services will indicate the immediate preparations which should be made in so far as pharmaceutical materials and supplies are concerned in order to have everything in readiness should it be needed.



During every crisis in this country's history the American people have looked to the neighborhood pharmacist for aid. The program described in this booklet suggests an efficient and effective method of supplying the pharmaceutical needs of to-day's emergency.

THE PHARMACIST'S DUTIES

1. Enroll at once in a Red Cross First Aid Instruction Course to bring his knowledge of this subject up-to-date and obtain certification.

2. Enroll his pharmacy in the Civilian Defense Program through his state and local pharmaceutical association.

3. Post a notice in his pharmacy advising the public of the Emergency Medical Services which will be available in the event of a disaster, indicating the location of Casualty Stations, and explaining that First Aid Posts will be set up at the scene; and post a notice in his pharmacy of the location of shelters, air raid wardens' posts and other units of the Civilian Defense organization.

4. Prepare a suitable rack to hold leaflets, booklets, and other material issued by the Office of Civilian Defense and place it in a conspicuous spot on the counter. Obtain all printed material from the local Office of Civilian Defense.

5. Assemble the drugs and other materials needed for first aid work in a critical emergency or to handle those injured persons who come to the pharmacy in spite of instructions to the contrary.

6. Register with the Chief of Emergency Medical Service in his community, indicating the supplies he has available.

7. Be prepared to advise the public on acceptable methods of purifying water and on other public health matters suggested by the Chief of Emergency Medical Service of his community.

8. Have facilities for emergency lighting.

9. Be prepared to employ the protective devices recommended by the Office of Civilian Defense to minimize the possibility of injuries due to glass.

10. Equip his pharmacy with a radio (that can be operated by battery, if possible) in order to receive instructions and information broadcast during an emergency.

11. Register the refuge facilities of his pharmacy with the Air Raid Warden of his immediate area.

12. Register his telephone facilities with the Director of Communications of his local Civilian Defense Organization.

13. Register his delivery trucks with the Director of Transportation of his local Civilian Defense Organization.

14. Appoint himself a "committee of one" in his community to bolster civilian morale. Debunk fantastic rumors, "inside stories" and idle gossip concerning the war. Stimulate confidence in the government, in the armed forces and in the protection being afforded through the Civilian Defense Program.

15. Assign specific tasks to each member of his staff so that each knows exactly what is expected of him in an Emergency.

16. If his pharmacy has a sufficiently large staff, one or more members, qualified in first aid procedures, may volunteer to the Chief of Emergency Medical Services to serve as members of a stretcher team or to assist physicians at FIRST AID POSTS in caring for the injured.

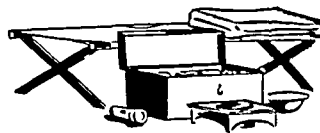


EMERGENCY SUPPLY KIT

This is a suggested list; pharmacists should discuss the contents with their local Chief of Emergency Medical Services.

Absorbent Cotton
Gauze Pads, 3 x 3
Triangle bandages
Adhesive Tape, 2 in. x 10 yd.
Hot Water Bottle
Paper Towels
Flashlight
Splints
Indelible Pencils (or lipsticks)
Box of matches
Sulfathiazole or sulfanilamide,
 powdered
Safety pins
Basin
Scissors
Swab Sticks

Tongue Depressors
Sterno Stove and Heat
Tweezers
Tannic Acid Jelly
Rubbing Alcohol



Tincture of Iodine (2%)
Aromatic Spirit of Ammonia
Solution of Boric Acid
Butyn Solution (2%)
Solution of Ferric Subsulfate
Mercuric Chloride Tablets
Phenobarbital Tablets
Soap
First Aid Manual
Cot or Stretcher
Blanket

To meet the emergency needs of physicians, it is expected that pharmacies will have available in stock such items as the following:

Tetanus Antitoxin
Hypodermic Syringes and Needles
Ethyl Chloride
Ampuls of Caffeine Sodio-Benzozate
Hypodermic Tablets of Morphine Sulfate

Sterile Sutures
Ether for Anesthesia
Ampules of Distilled Water
Aromatic Spirit of Ammonia (pearls)
Tannic Acid

Pharmacists should discuss this list with their local Chief of Emergency Medical Services to ascertain the particular medication physicians will use and the supplies which should be available.

PHARMACEUTICAL UNIT

REGISTERED WITH THE (STATE) PHARMACEUTICAL ASSOCIATION



Suggested use of designation on placard for window or counter use.

HOW SEVEN DERMATOLOGISTS TREAT

Psoriasis

SUMMARIZING THE SUGGESTIONS
OF A GROUP OF AUTHORITIES
ON THE TREATMENT OF THIS
VERY COMMON SKIN CONDITION

PSORIASIS is about the eighth most common skin disease. It is an inflammatory condition, acute or chronic, characterized by red, scaly patches which appear most often on the scalp but may also appear on other parts of the body—even under the nails.

Men and women are both subject to the disease, it being slightly more common among men. It is found more often in husky, well-nourished individuals than in thin persons. It apparently runs somewhat in families, but there is little agreement among physicians as to the exact extent—estimates of dermatologists varying from 5 to 50 per cent. Some physicians find that from 12 to 25 per cent of psoriasis patients also have arthritis; others see no connection between the diseases. Some physicians find that nervousness accompanies the disease; others do not.

The actual cause of psoriasis is unknown, the newest theory being that it is a metabolic disease due to an inability of the body to utilize fats. As a result of the lack of knowledge of the cause of the disease, there is a considerable variance in the treatments prescribed by leading dermatologists. As one physician has said of his treatment, "it includes every trick known, written, published, and tried."

In the absence of an exact knowledge of the cause of the disease and of a specific treatment, every physician is eager to learn what other physicians are using and the *Journal of Investigative Dermatology** has asked seven of the leading dermatologists of the country to tell how they treat their cases. The information which these physicians supplied is published as a symposium in that journal for October 1941.

Because this information will be helpful to every physician who is called upon to treat

psoriasis, permission to abstract the symposium material has been secured. Through this article any pharmacist can place at the disposal of his physicians the latest information on the treatment of this disease.

The seven dermatologists who contributed to the symposium on psoriasis are as follows:

Dr. Samuel Ayres, Jr., Professor of Dermatology and Syphilology of the College of Medical Evangelists and of the Dental School of Southern California University; Attending Physician of Good Samaritan Hospital, California Lutheran Hospital, Cedars of Lebanon Hospital, and Hollywood Hospital; and Senior Attending Physician of the Department of Dermatology of Los Angeles County General Hospital.

Dr. S. W. Becker, Associate Professor of Dermatology and Syphilology, Chicago University.

Dr. Louis Chargin, Associate Dermatologist, Mount Sinai Hospital; Associate Clinical Professor, Post Graduate Hospital, Columbia University, and Chief of the Division of Venereal Disease, New York City Department of Health.

Dr. Theodore Cornbleet, Associate Professor of Dermatology, University of Illinois College of Medicine.

Dr. Everett C. Fox, Attending Dermatologist, Baylor University Hospital, Dallas Venereal Disease Control Clinic, Methodist Hospital, Pariland Hospital; Consulting Dermatologist, Dallas Tuberculosis Association; and Associate Professor of Clinical Dermatology and Syphilology, Baylor University.

Dr. John F. Madden, Assistant Professor of Dermatology and Syphilology, University of Minnesota.

Dr. Paul A. O'Leary, Chief of the Dermatological Service of Colonial Hospital and Kahler Hospital; Director of Department of Dermatology and Syphilology of the Mayo Clinic; Professor of Dermatology and Syphilology, Mayo Foundation

* Published by The Williams & Wilkins Company, Baltimore, Md.

of Medical Education and Research, Graduate School, University of Minnesota.

LOCAL THERAPY

In acute cases Dr. Ayres prescribes bland medication such as ointment of boric acid or a 2 to 4 per cent salicylic acid ointment.

In chronic cases he begins treatment with the following ointment:

Salicylic acid.....	1.0
Anthralin ointment (1½%).....	6.0
Petrolatum, <i>q. s.</i>	30.0

The strength of the salicylic acid and Anthralin (Abbott) are gradually increased according to tolerance. If the response of the patient is not satisfactory he uses the following ointment:

Salicylic acid.....	1.0
Chrysarobin.....	0.6
Petrolatum.....	30.0

The strength may be increased if desired. Dr. Ayres never uses chrysarobin about the face or scalp but does use Anthralin in these places.

In some cases he uses White's coal-tar paste at night, followed the next day by ultraviolet light treatments after the paste has been removed. The formula for this paste is as follows:

Crude coal tar.....	4.
Zinc oxide.....	2.
Cornstarch.....	15.
Petrolatum.....	15.

For treatment of the peri-anal regions in which these preparations are not tolerated, he prescribes the following:

Sulfur, precipitated.....	1. to 2.
Salicylic acid.....	1. to 2.
Petrolatum.....	30.

In some cases he uses the following ointment:

Resorcin.....	1.0
Liq. carb. detergens.....	12.5
Special base, <i>q. s.</i>	60.0

The formula for the special base is as follows:

Glyceryl monostearate.....	10.
Spermaceti.....	5.
Petrolatum.....	3.
Liquid petrolatum.....	2.
Glycerin.....	3.
Water.....	72.

Dr. Becker prescribes White's 5 per cent crude coal-tar ointment, rubbed in vigorously with a wooden tongue blade. Generalized ultraviolet light treatments are given cautiously once a day.

He treats psoriasis of the scalp with 20 per cent ammoniated mercury 'or Stokes' scalp ointment. Formula for the latter ointment is as follows:

Oil of cade.....	20.
Sulfur.....	10.
Salicylic acid.....	5.
Cold cream, <i>q. s.</i>	100.

Psoriasis of the nails he treats with 5 per cent of salicylic acid in 5 per cent ammoniated mercury ointment, along with roentgen therapy.

Dr. Chargin prefers the use of chrysarobin ointment, 0.1 to 2.0 per cent, rarely higher. For treatment of the peri-anal region he uses zinc ointment as the base; elsewhere he uses lanolin and vaseline. For the scalp he uses 10 to 20 per cent ammoniated mercury in cold cream. Salicylic acid is added when marked scales are present.

Dr. Cornbleet uses chrysarobin ointment, 2 to 10 per cent, in petrolatum for hospital cases. The 10 per cent strength with 2 per cent of phenol is useful on small resistant patches. Although Anthralin (Abbott) is more expensive, he prefers it to chrysarobin as it is more effective, cleaner, and easier to use at home. He usually uses 0.1 per cent Anthralin ointment, reserving stronger concentrations, such as 0.5 per cent, for small, thick, resistant areas.

For a tar ointment, Dr. Cornbleet prescribes the following:

Washed crude coal tar.....	6.
Ammoniated mercury.....	10.
Zinc oxide.....	6.
Lanolin.....	
Petrolatum, <i>aa. q. s.</i>	100.

This ointment is not used on the scalp; instead he uses the following:

Salicylic acid.....	5.
Ammoniated mercury.....	10.
Castor oil.....	
Petrolatum, <i>aa. q. s.</i>	100.

This is a thin mixture which, if rubbed into the hair with a cloth wet with alcohol, is easily removed by washing.

Dr. Fox gives the patient two prescriptions, one labeled "strong" and the other "mild," advising him that if the strong irritates, to substitute the mild for a few days. Formulas of the two ointments are as follows:

STRONG

Sulfur, precipitated	
Oil of cade, aa.....	℥i
Saponis mollis.....	℥iv
Petrolatum, q. s.....	℥ii

MILD

Ammoniated mercury.....	℥i
Petrolatum, q. s.....	℥ii

The patient is advised to take a soap and water bath at night and then apply the salve. If the case is resistant the patient is asked to purchase an ultraviolet lamp for home use during the hazy winter and urged to sunbathe as extensively as possible in the summer.

Dr. Fox rarely uses chrysarobin or Anthralin but frequently uses the following, especially with sunbathing or ultraviolet treatments:

Crude coal tar	
Starch, aa.....	℥i
Ung. Zinc Oxid., q. s.....	℥ii

Dr. Madden prescribes the following scaling ointment:

Salicylic acid.....	2.
Ammoniated mercury.....	6.
Liquor carbonis detergens.....	6.
Aquaphor, † q. s.....	60.
Sig: Apply to lesions, b. i. d.	

† Duke Laboratories, Stamford, Conn.

This ointment is sometimes irritating in the ascending phase of the disease and colloidal baths and boric acid ointment are used instead.

Dr. O'Leary prescribes the following ointment:

Crude coal tar (White's)**.....	℥ii
Zinc oxide.....	℥ii
Corn starch.....	℥ii
Petrolatum.....	℥ii

** Eastern Drug Company, Boston, Mass

With this important article any pharmacist in city, town, or hamlet can bring to his physicians the suggestions of seven leading dermatologists on the treatment of psoriasis.

To those pharmacists who ask, "What shall I detail doctors on?" this article gives the answer.

For the treatment of the scalp and isolated patches on elbows and knees he uses a 5 per cent salicylated ammoniated mercury ointment.

DIET

Dr. Ayres prohibits alcohol and prescribes a diet low in fat but states that he is unable to draw conclusions as yet on the effect of such a diet.

Dr. Becker prescribes a restricted protein diet.

Dr. Chargin states he has tried all diets and found them wanting.

Dr. Cornbleet does not believe that diets low in fat or protein are of any great value other than by causing the patient to eat less and thus lose weight. He limits patient to a 1200 to 1500 calorie diet, curbing the desire for food with 10 mg. of amphetamine sulfate before breakfast and lunch and 5 mg. before dinner. If the pre-dinner dose interferes with sleeping it is withdrawn. If the 10-mg. dosage makes the patient nervous, 6-mg. tablets are substituted.

Dr. Fox believes that little is accomplished by diet. He asks patients to reduce their fat intake but makes no attempt to eliminate fat entirely.

Dr. Madden prescribes a low fat diet, attempting to keep the fat intake under 30 Gm. a day.

Dr. O'Leary prescribes a diet in accordance with his findings—low in fat in the presence of lipemic or semi-lipemic states.

PARENTERAL MEDICATION

The only parenteral therapy used by Dr. Ayres is autohemotherapy, in which blood is withdrawn from one part of the patient's body and reinjected in another part of his body. Dr. Ayres precedes this treatment with the intravenous injections of 10 cc. of sodium thio-sulfate or 5 cc. of calcium thiosulfate solutions.

Dr. Becker uses autohemic injections, withdrawing 10 cc. of blood and immediately injecting it into the buttock. The injection is made twice weekly for five weeks.

Dr. Cornbleet uses intravenous injections of iron cacodylate at times, and occasionally sodium salicylate. He believes that autohemotherapy fortifies local treatment and he also finds blood letting, 100 cc. at 10-day intervals, useful.

Dr. Fox rarely gives arsenic by injection, occasionally autohemotherapy. He has recently used a potent vitamin B complex with some beneficial results.

Dr. O'Leary administers 10 cc. of whole blood every other day for 10 to 14 days. He administers typhoid vaccine when arthritis is present.

ORAL MEDICATION

Dr. Ayres is opposed to the use of arsenic because of cumulative effects in the tissues and because he doubts its value. The only medication he believes helps, and then only occasionally, is thyroid which he prescribes as follows:

Thyroid, desiccated.....	1/4 grain
Pilocarpine hydrochloride.....	1/20 grain

One such capsule is given three times a day after meals.

Dr. Chargin states he has stopped the use of arsenic except in very chronic cases.

Dr. Cornbleet believes arsenic to be most useful in the treatment of chronic, established eruptions. He prescribes Fowler's Solution, 3 to 10 drops 3 times a day, for a total of 3 weeks alternating with a rest period of a month. He states that he is encouraged with the use of Abbott's Liver Extract and that he has also seen improvement with the administration of two tablets of triple-strength pancreatin (Abbott) after each meal.

Dr. Fox does not prescribe arsenic for oral use but does give fairly large doses of vitamin D. Resistant cases and those with histories suggesting thyroid deficiency are given basal metabolism tests and, if indicated, thyroid medication.

Dr. Madden prescribes 1000 units of vitamin B₁ daily by mouth.

Dr. O'Leary prescribes vitamin D in the treatment of arthritis, debilitated patients and those with universal involvement.

X-RAY AND ULTRAVIOLET

X-ray treatments are used cautiously by four of the seven dermatologists, usually to obtain a momentum in the treatment which can be maintained by local therapy.

Ultraviolet light treatment, with the application of tar ointments, is more popular, being used to some extent by all seven physicians.

PROGNOSIS

Although the dermatologists agree that there is no cure for psoriasis, the consensus of opinion is that most attacks of the disease can be cleared up with persistent treatment, particularly the cases are of recent origin. Continued treatment will keep many cases clear.

Without treatment, the disease waxes and wanes, some disappear and recur, others persist indefinitely with the lesions gradually increasing in number and size.

The majority of cases clear up on exposure to the summer sun and then recur in the winter.

Plant Science Seminar will hold its 1942 meeting at Science Lodge, the summer laboratory of the University of Colorado, August 10th to 15th. Science Lodge is situated in the high mountain 28 miles west of the University campus at Boulder. The location on the flank of Mount Niwot, 9500 feet above sea level and just below the timberline is surrounded by lakes and forests, mountain streams, trails and roads and presents a magnificent panorama of rugged peaks and snow-capped mountains. Plans are being formulated for an excellent program including botanizing among the mountain flora and visits to many places of historical and scientific interest in the vicinity. Dr. David W. O'Day, of the College of Pharmacy of the University of Colorado, is Local Secretary. Here is an opportunity to enjoy a week of rest and recreation in a delightful mountain locality and to study with the Plant Science Seminar the flora of the Rocky Mountains. The camp combines all of the comforts of the home. The means are excellent and the cost of meals and lodging will not exceed \$3.00 per day per person. Drop a postcard to the secretary, Dr. Elmer H. Wirth, 808 South Wood Street, Chicago, and have your name and address placed upon the mailing list to receive announcements of the Seminar meeting.

OFFICE OF PRODUCTION MANAGEMENT

SOCIAL SECURITY BUILDING

WASHINGTON, D. C.

January 29, 1942

To all Retailers:

Under the national emergency it is obviously necessary that health be maintained. It is also obvious that certain unpreferred sugar-users must sacrifice more than those users necessary to the national welfare. Therefore, will you kindly supply the retail druggists in your locality with all the sugar that they need for pharmaceutical and drug purposes only. This does not include sugar for soda fountains or food use. On the average, this quantity should be about 10 pounds per week. This authority will prevail until ration cards have been issued --- at which time this authority is cancelled.

Very truly yours,



A. E. Bowman
Chief, Sugar Section
Food Supply Branch

SHOW THIS LETTER TO YOUR GROCER

The above letter has been prepared by A. E. Bowman, Chief of the Sugar Section, Food Supply Branch, Office of Production Management, to assist pharmacists in obtaining sugar for pharmaceutical purposes. Show it to your grocer if you have difficulty in securing sufficient sugar to meet your professional needs.

THE ARMY'S NEED FOR PHARMACISTS



A. P. H. A. ADVISED THAT ARMY OF 3,600,000 WILL REQUIRE SERVICES OF 5000 MEN FOR PHARMACEUTICAL DUTIES . . . ASSURES USE OF PHARMACISTS IN PROFESSIONAL CAPACITY

BRIGADIER General L. B. McAfee, Assistant to the Surgeon General of the United States Army, has advised the AMERICAN PHARMACEUTICAL ASSOCIATION that the present Organization Tables based on an Army of 3,600,000 men will require the services of 5000 men in the performance of pharmaceutical duties. Registered pharmacists, conscripted under the Selective Service and Training Act, will be used in their professional capacity to supply as many of this number as possible. The deficit will be made up by graduates of the Army technical schools who will act as assistants. Approximately 1000 pharmacists are in the Army in commissioned or non-commissioned status at the present time.

Since the outbreak of the war certain changes have been made in the reception and handling of enlisted and conscripted men. Upon induction, selectees assigned to the Medical Department are now sent to Medical Department Replacement Centers for a period of about 13 weeks for basic military training. At the end of that period, Commanding Officers will recommend men for admission to Officer Candidate Schools based on their education, record in civil life and in the Army, qualities of leadership and general fitness to be officers. Men so recommended will be commissioned as second lieutenants in the Medical Administrative Corps upon the satisfactory completion of the course of three months. Such men will be placed in administrative and pharmaceutical supervisory work and their commissions are in the Army of the United States, not the reserve, and are for the duration of the emergency and six months thereafter.

Those pharmacists not recommended for Officer Candidate Schools will be transferred to various Medical Department installations and assigned to pharmaceutical duties. They will be given specialist ratings and non-commissioned grades.

Upon induction, selectees assigned to the Medical Department are sent to Medical Department Replacement Centers for a period of about 13 weeks for basic military training.

In releasing General McAfee's statement of the Army's needs, Dr. H. Evert Kendig, Chairman of the Committee on the Status of Pharmacists in the Governmental Services, stated that every effort will be made to provide pharmacists with as little disruption to the civilian pharmacy service as possible.

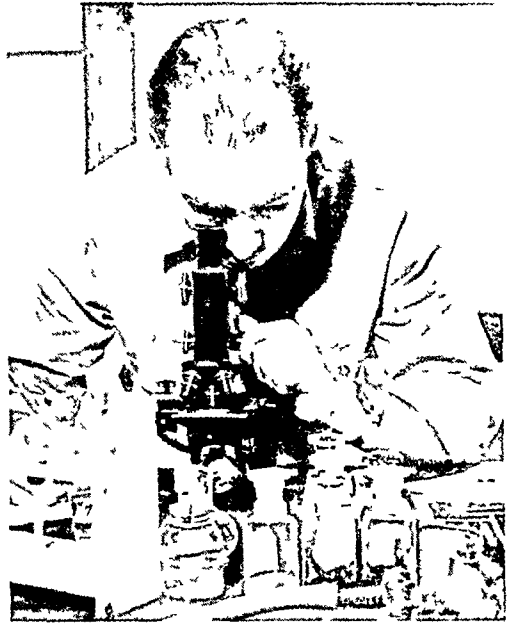
"The withdrawal of any considerable number of pharmacists from retail pharmacies of the country will be an appreciable drain on the profession," said Dr. Kendig. "Employee pharmacists will probably be conscripted before men who own and operate their own pharmacies, but after allowance of deferment for dependents and disqualification for physical defects, it is inconceivable that the number of available employee pharmacists will satisfy the needs of the Army. In all probability as many pharmacist owners as employee pharmacists will be drafted, resulting in the closing of a number of retail pharmacies.

"We must bear in mind that General McAfee's figures are based on an Army of 3,600,000 men. Should an Army of double that size be required, which is always a possibility, approximately 10,000 men will be needed to furnish pharmaceutical services," he said.

"Our most pressing problem is to secure the continued deferment of pharmacy students whose scholastic records indicate that in all probability they will be graduated," said Dr. Kendig. "We must maintain the flow of men and women

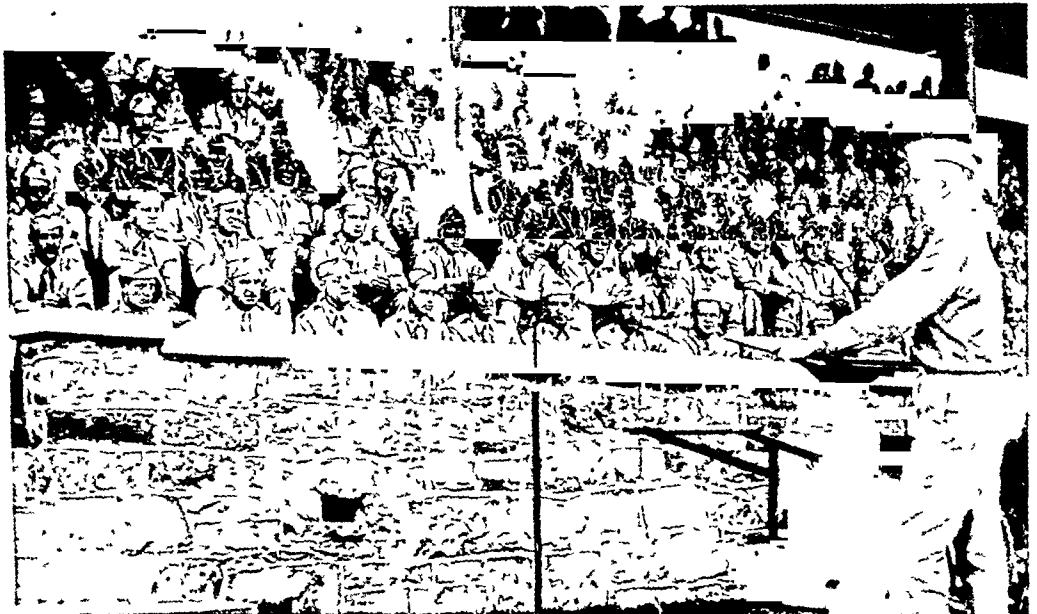
into the profession if the needs of the armed forces and the civilian public are to be met."

All photographs on these pages are by the U. S. Army Signal Corps



(Above) Registered pharmacists will be used in their professional capacity

(Below) A class at the Officer Candidate School at Carlisle Barracks, Pa



F. D. A. ISSUES FINAL LIST OF

HABIT-FORMING DRUG DERIVATIVES

DRUGS DESIGNATED WHICH
MUST BE QUANTITATIVELY
DISCLOSED ON LABELS
TOGETHER WITH WARNING
STATEMENT UNDER SECTION
502 (d) OF FEDERAL ACT

UNDER Section 502 (d) of the Federal Food, Drug and Cosmetic Act, the Administrator is authorized to designate by regulation, after investigation, the habit-forming chemical derivatives of alpha-eucaine, barbituric acid, beta-eucaine, bromal, cannabis, carbromal, chloral, coca, cocaine, codeine, heroin, marihuana, morphine, opium, paraldehyde, peyote and sulphonmethane. Drugs which contain such derivatives must be labeled with a statement of the name and proportion of such substance and, in juxtaposition without intervening words, the phrase "Warning—May be habit forming." The label statement must include not only the name of the derivative but the name of the parent drug from which it is derived.

In carrying out this provision of the Act, the Administrator held hearings on the subject several months ago, issued a tentative list of drugs which were believed to be habit-forming derivatives of the drugs mentioned in the Act, gave interested parties an opportunity to file exceptions to items on the list, and on January 23, 1942, published the final list which will become effective in 90 days. The list is published in full on the opposite page.

FINDINGS OF FACT

In issuing this list of chemical derivatives of habit-forming drugs, the Administrator included the following findings of fact concerning such drugs:

1. The principal factors which govern formation of a drug habit are the nature of the individual who takes the drug and the pharmacologic action produced by the drug.

2. The effect of a drug which may give rise to habit formation is pleasurable stimulation or

escape from unpleasant experience, such as insomnia, fear, grief, pain, etc.

3. Such effects are produced by the administration of drugs which have depressant or stimulant properties.

4. Desire to obtain such effects is likely to cause frequently repeated use of such drugs.

5. Frequently repeated use of such drugs is likely to induce, and in certain persons does induce, psychic dependence and, in the case of some drugs, psychic and physical dependence on such drugs.

6. Psychic dependence on a drug is habituation to that drug, and psychic and physical dependence on a drug is addiction to that drug, so that addiction to a drug includes habituation to that drug. A drug which is likely to induce, and in certain persons does induce, habituation to such drug is a habit-forming drug, although repeated use of that drug may not necessarily induce addiction to that drug.

7. The fundamental nucleus of a drug which possesses the habit-forming properties is in no way modified by the addition of the basic or acidic ion, so that the habit-forming properties of a drug are substantially the same whether it be a free base, or acid, or a salt formed by its combination with an acidic or basic ion. The principal differences between these forms are only in their physical properties, such as solubility, which may affect the mode of administration of the drug or its rate of absorption by the human body; but once absorbed their effects are identical.

8. A chemical derivative is a substance so related to another substance by modification or partial substitution as to be regarded as theoretically derivable from it, even when not obtained from it in practice.

9. Each of the drugs listed is theoretically derivable or is actually derived from a parent substance specified in Section 502 (d) of the Act, and has, on investigation, been found to possess depressant or stimulant properties, and that its frequently repeated use is likely to induce, and in certain persons does induce, psychic dependence on such derivative and in some cases physical dependence.

HABIT-FORMING DRUG DERIVATIVES

Parent Substance	Chemical Derivative	Chemical Description of Derivative
Barbituric Acid....	Alurate.....	(5-allyl-5-isopropyl-barbituric acid)
	Amytal.....	(5-ethyl-5-isoamyl-barbituric acid)
	Barbital.....	(5,5-diethyl-barbituric acid)
	Butisol.....	(5-ethyl-5-sec-butyl-barbituric acid)
	Cyclopal, cyclophen.....	(5-allyl-5-cyclopentenyl-barbituric acid)
	Delvinal.....	(5-ethyl-5-(1-methyl-1-butenyl)-barbituric acid)
	Dial.....	(5,5-diallyl-barbituric acid)
	Eldoral.....	(5-ethyl-5-(1-piperidyl)-barbituric acid)
	Eunarcen.....	(5-(2-bromoallyl)-5-isopropyl-1-methyl-barbituric acid)
	Evipal.....	(1,5-dimethyl-5-(1-cyclohexenyl)-barbituric acid)
	Ipral.....	(5-ethyl-5-isopropyl-barbituric acid)
	Mebaryl.....	(5-ethyl-5-phenyl-1-methyl-barbituric acid)
	Narcozumal.....	(5-allyl-5-isopropyl-1-methyl-barbituric acid)
	Neonal.....	(5-ethyl-5-butyl-barbituric acid)
	Nostal.....	(5-isopropyl-5-(2-bromoallyl)-barbituric acid)
	Ortal.....	(5-ethyl-5-hexyl-barbituric acid)
	Pentenal.....	(5-ethyl-5-cyclopentenyl-barbituric acid)
	Pentobarbital.....	(5-ethyl-5-(1-methylbutyl)-barbituric acid)
	Pentothal.....	(5-ethyl-5-(1-methylbutyl)-2-thio-barbituric acid)
	Pernoston.....	(5-sec-butyl-5-(2-bromoallyl)-barbituric acid)
	Phanodorn.....	(5-ethyl-5-(1-cyclohexenyl)-barbituric acid)
	Phenobarbital.....	(5-ethyl-5-phenyl-barbituric acid)
	Proponal.....	(5,5-dipropyl-barbituric acid)
	Rutonal.....	(5-methyl-5-phenyl-barbituric acid)
	Sandoptal.....	(5-allyl-5-isobutyl-barbituric acid)
	Sigmodal, Rectidon.....	(5-(2-bromoallyl)-5-(1-methylbutyl)-barbituric acid)
	All lithium, sodium, potassium, magnesium, calcium, strontium and ammonium salts of the foregoing chemical derivatives of barbituric acid.	
	Seconal.....	(sodium-5-allyl-5-(1-methylbutyl)-barbiturate)
	All salts of the foregoing chemical derivative formed by replacing the sodium with lithium, potassium, magnesium, calcium, strontium or ammonium radical.	
Bromal.....	Bromal Hydrate.....	(tribromoacetaldehyde hydrate)
	Brometone.....	(2-(tribromomethyl)-2-propanol)
	Bromoform.....	(tribromomethane)
Cannabis Marihuana.....	Extract of Cannabis.	
	Fluidextract of Cannabis.	
Carbromal.....	Tincture of Cannabis.	
	Acetylcarbromal.....	(α -bromo- α -ethylbutyryl-acetyl-urea)
	Bromural.....	(α -bromoisovaleryl-urea)
	Neuronal.....	(α -bromo- α -diethyl-acetamide)
	Sedormid.....	(α -allylisovaleryl-urea)
Chloral.....	Alpha-Chloralose.....	(α -(β -trichloro- α -hydroxyethyl)- β -glucoside)
	Chloralformamide.....	(N-(β -trichloro- α -hydroxyethyl)-formamide)
	Chloral Hydrate.....	(trichloroacetaldehyde hydrate)
	Chloralimide.....	(trichloroethylideneimine)
	Chlorobutanol.....	(2-(trichloromethyl)-2-propanol)
Cocaine.....	All salts of cocaine obtained by combining cocaine with any acid.	
Codeine.....	Dicodid.....	(dihydro-codeinone)
	Eucodal.....	(dihydrohydroxy-codeinone)
	Eucodin.....	(codeine methyl bromide)
	All salts of the foregoing chemical derivatives of codeine, and all salts of codeine, obtained by combining any such derivative or codeine with any acid.	
Heroin.....	All salts of heroin obtained by combining heroin with any acid.	
Morphine.....	Dilaudid.....	(dihydro-morphinone)
	Ethylmorphine.....	
	Paramorphan.....	(dihydro-morphine)
	All salts of the foregoing chemical derivatives of morphine, and all salts of morphine, obtained by combining any such derivative or morphine with any acid.	
Opium.....	Extract of Opium.	
	Fluidextract of Opium.	
	Tincture of Opium.	
Paraldehyde.....	Metalddehyde.....	
Sulphonmethane.....	Sulfonylmethane.....	(2,2-diethylsulfonyl-butane)
	Sulfoudiethylmethane.....	(3,3-diethylsulfonyl-pentane)

SELECTIVE SERVICE STUDENT DEFERMENTS TO STAND

ENTRANCE OF THIS COUNTRY INTO WAR DOES NOT CHANGE THE STATUS OF STUDENTS IN FIELDS NECESSARY TO HEALTH WHICH ARE THREATENED BY SHORTAGES OF PERSONNEL, STATE DRAFT BOARDS TOLD

TAKING cognizance of reports from various sections of the country that since the United States has entered the war Local Draft Boards are refusing to grant deferments to students in specialized fields threatened by shortages of manpower, General Lewis B. Hershey, Director of the Selective Service System, on January 12th notified all State Directors, who will in turn advise Local Draft Boards, that the policies set forth in previous memoranda remain in force.

Among the memoranda specifically cited by General Hershey is No. K-62, issued on April 22, 1941, which listed pharmacy as a professional occupation in which *"there is complete agreement among representatives of industry, of American colleges and universities, and of the practicing professional groups that the present and future demands of the national defense program for college-trained scientific personnel will transcend the normal supply of graduating students that comes on to the labor market at the close of the academic year."* Under this memorandum individual pharmacy students who maintain satisfactory grades and show reasonable promise of being graduated have, in most cases, received favorable consideration by Local Draft Boards and have been deferred to continue their studies.

Director Hershey's new memorandum called particular attention to the urgency of occupational deferment of students of engineering, chemistry, physics, medicine, and dentistry, but stated that "this memorandum is in addition to and does not rescind those previously issued which apply to students in other critical fields."

Prior to the issuance of the new memorandum Dr. H. Evert Kendig, Dean of the School of Pharmacy of Temple University and Chairman of the Committee on the Status of Pharmacists

in the Government Service, Dr. Ernest Little, Dean of the Rutgers University College of Pharmacy, and Dr. E. F. Kelly, Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION, discussed the necessity of continued deferment of students of pharmacy with Selective Service Officials and placed before them the following data:

The number of pharmacies in the United States has decreased from 58,258 in 1930 to 57,903 in 1940. Preliminary census figures indicate that the number of pharmacists has remained approximately at the same figure during this period—104,837.

Competent insurance authorities advise that approximately 1150 pharmacists are lost by death each year and approximately 1750 by retirement or withdrawal from the profession. This means the necessary replacement of personnel to maintain present facilities and services is 2900 pharmacists annually.

The colleges of pharmacy of the country have graduated an average of only 1666 men and women a year for the past six years. The enrollment this year is five per cent lower than it was last year and no increase in the number of graduates can be expected during the next four years unless the course is accelerated. Due to the effect of Selective service, and the effect of industrial opportunities in defense plants, a further reduction is expected next year. Any further reduction in student attendance will result in a very serious shortage for the armed forces as well as the civilian population.

The schools and colleges of pharmacy are studying the advisability of operating on a continuous program but in order for such a procedure to be effective a sufficient number of qualified students must be deferred to maintain approximately the present number of graduates.

Prior to the recent amendment of the Selective Service and Training Act, approximately 25 per cent of the pharmacists of the country were within the age limits of the draft. Since the Act was amended, approximately 50 per cent are within the age limits. A much larger number of pharmacists will be called for service under the amended Act and no doubt many pharmacies will be closed, but every effort will be made to interfere as little as possible with pharmaceutical services to the public during this period.

Commenting on the new Selective Service Memorandum, Dean Kendig said, "The deferment of students of pharmacy has been generally

satisfactory until recently and there is every reason to believe that, in view of General Hershey's statement, individual students of acceptable standing will continue to receive favorable consideration.

"The expansion of this country's armed forces to several millions will necessitate the drafting of a large number of pharmacists from civilian

life. The profession, and the services it renders to the public, are bound to be disrupted but the disruption will be held down to a minimum if we can maintain a constant supply of trained personnel flowing through our colleges. We ask merely the deferment of pharmacy students until they reach the point of greatest usefulness to the armed forces and to the civilian population."

COMPLETE TEXT OF DIRECTOR HERSHEY'S MEMORADUM

January 12, 1942

MEMORANDUM TO ALL STATE DIRECTORS (I-347)

Local Board Release (83)

EFFECTIVE DATE: IMMEDIATELY

SUBJECT: Supplement to Memoranda (I-62), (I-91), (I-99) and (I-150) Occupational Deferment of Engineering, Chemical, Physics, Medical, Dental Students and Instructors (III)

The attention of local boards is again invited to the necessity of seriously considering for deferment students in certain specialized professional fields in which dangerously low levels of man power are found to exist. This memorandum is in addition to and does not rescind those previously issued which apply to students in other critical fields.

Subsequent to the declaration of war, local Selective Service agencies have in many instances proceeded to classify registrants without regard to the fact that they are in training or preparation for activities, the maintenance of which is essential to the national health, safety, or interest, and war production. This is particularly true in cases of engineering, chemical, physics, medical and dental students.

Admittedly there is an overlapping of the military and civilian requirements of a nation at war; however, it must be borne in mind the one is dependent upon the other. It is estimated that the expanding Army will eventually require doctors and dentists in numbers heretofore unknown. They will not be available if those students who show reasonable promise of becoming doctors and dentists are inducted prior to becoming eligible for commissions.

War industries are undergoing a hitherto unknown expansion. Aeronautical, Civil, Electrical, Chemical, Mining, Metallurgical, Mechanical and Radio Engineers, together with Physicists and Chemists are essential to insure a sufficient flow of material for the armed forces, and industry must look to the engineering, chemical and physics students now in training to meet their present and future requirements.

It is equally important that instructors in these fields be seriously considered for occupational deferment. Shortages of qualified instructors are known to exist. The educational institution employing the instructor should be requested to file DSS Form 42A in all cases where deferment is sought.

In considering student deferment cases, certain local boards are requiring the execution of DSS Form 42A in addition to the affidavit of the college or university contained in Bulletin No. 10 issued by the American Council on Education. DSS Form 42A should not be required where the American Council on Education affidavit has been submitted.

Local Boards will be informed when the man power requirements necessary to the national health, safety, or interest, and war production become static. Until such time, the policy set forth in the Memoranda to All State Directors I-62, I-91, I-99 and I-150 remains in force.

LEWIS B. HERSHEY, *Director*



IN REPLYING
ADDRESS THE SURGEON GENERAL
U. S. PUBLIC HEALTH SERVICE

FEDERAL SECURITY AGENCY
U. S. PUBLIC HEALTH SERVICE

WASHINGTON
December 18, 1941

Mr. E. F. Kelly, Secretary,
American Pharmaceutical Association,
2215 Constitution Ave., N. W.
Washington, D. C.

Dear Mr. Kelly,

I have your letter of December 16, 1941, and you are assured that the Public Health Service appreciates the offer of the pharmacists to assist in a national health education.

While the Public Health Service is primarily concerned for the protection and promotion of the health of the United States on primarily by various services.

I can see many possibilities for the cooperation of pharmacists in a health education program, and I would suggest that the State pharmaceutical associations confer with the State Directors of Health of their respective States for the purpose of working out a plan whereby the pharmacists may make available their services and facilities in the dissemination of health information and materials.

Sincerely,


E. R. Coffey,

Assistant Surgeon General,
Division of Sanitary Reports & Statistics

ERC/MMCC

PHARMACISTS CAN HELP MAINTAIN THE "ARMY BEHIND THE ARMY"

IMPORTANCE OF CIVILIAN
HEALTH TO PRODUCTION
OF WAR MATERIALS PLACES
RESPONSIBILITY ON THIS
PROFESSION TO COMBAT
THE PUBLIC'S CARELESSNESS
AND NEGLECT . . . DISEASE
OFTEN DETERMINES THE
DESTINY OF GREAT NATIONS

VAST as is the Army that this country is martialing to win the war, an "army behind the army" of many times the size of the actual fighting forces is being mobilized to supply the food, drugs, clothing, guns, ammunitions, tanks, planes and ships needed by the men in uniform. In this highly mechanized war, victory or defeat may very well be decided not so much by manpower as by the quality and quantity of weapons and materials that are made available.

This places a tremendous responsibility upon the men and women who are working in factories and offices in every city, town and hamlet of the country to fabricate the materials needed. Industrial plants which formerly turned out toys, automobiles and sewing machines are now making ammunition, tanks and bombsights; virtually every community in the country is playing a part in the winning of this war.

The greatest single threat to this all-out production program is not lack of raw materials, lack of machinery, shortage of help, nor is it enemy sabotage . . . *the great menace is the threat of potential and actual illness to the American people.* We can develop substitute materials and give up tires, gasoline and other articles, if need be, to provide raw materials. We can convert factories and machines from peacetime manufacture to war production and train men and women to new duties. We can take effective steps to minimize enemy sabotage. But to guard this nation against sickness is a much more difficult problem.

Under normal conditions the time lost from work due to illness in American industry is the equivalent of one week per worker per year . . .

or the full time work of a million workers per year. This year the dislocation of large groups of workers to work in defense factories, the pressure of outside study required to learn new manufacturing duties, and the increased numbers who are living abnormal lives because they work on night shifts, would tend to raise this figure. The time lost by workers due to illness during the next twelve months will be totaled in terms of battleships, tanks, planes and ammunition that might have been produced but were not. If the tremendous quantities of war supplies and equipment called for by President Roosevelt are to be produced, the health of the American people must at least be kept up to normal and, if possible, should be maintained on a higher level.

A clue to what can be done to prevent unnecessary loss of time from work due to illness is provided by a study of the most frequent diseases which cause incapacity, for the greater share of them are either preventable through the observance of simple health rules or their effects could be minimized if the advice of a physician or dentist were sought promptly. At the top of the list of such diseases are colds and respiratory infections which so often develop into more serious diseases; also high on the list are intestinal upsets, contagious diseases contracted through careless exposure, toothaches and other dental disorders, and infections resulting from the neglect of minor cuts and scrapes. Even such comparatively minor conditions as athlete's foot, strained muscles, ingrown toenails and painful corns cause workers to lose an aggregate of hundreds of days from work each year.

Because of the extensive daily contacts which pharmacists have with the American public and because the greater majority of people bring their ailments to their pharmacists first for advice, members of this profession offer the most effective means of lowering the incidence of incapacitating illness during this emergency. Right now is pharmacy's greatest opportunity to prove its important place in public health. For many years the pharmacist has striven for recognition as a public health agency in the community but until now he has had no real opportunity to function as such to the limits of his ability.

Keenly cognizant of the problem by virtue of the fact that he has long been a member of the Maryland State Board of Health and, at the same time, knowing the great work that pharmacists could do in such a health program, Dr. E. F. Kelly, Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION, has offered the services of the pharmacists of the country to the United States Public Health Service and through it to state and local boards of health in this emergency. Quickly accepting Dr. Kelly's offer, Dr. E. R. Coffey, Assistant Surgeon General, has written, *"I can see many possibilities for the coöperation of pharmacists in a health education program, and I would suggest that the State pharmaceutical associations confer with the State Directors of Health of their respective States for the purpose of working out a plan whereby the pharmacists may make available their services and facilities in the dissemination of health information and materials."*

WHAT PHARMACISTS CAN DO

The pharmacist's task in this program is to combat the two greatest menaces to public health: *carelessness* in failing to observe those simple rules of health which prevent disease, and *neglect* of minor ailments which may develop into more serious illnesses.

COMBATING CARELESSNESS

Pharmacists have it within their power to conduct a dynamic, effective educational campaign against carelessness in health matters. Such a program might well include the following features:

1. Urge the appointment of a pharmacist to your State Board of Health to head up this program, if one is not already a member.

2. Offer two feet of counter space to State and local Boards of Health for the distribution of literature on how to keep well. Construct a rack to hold such literature and keep it filled with material supplied by the health agency. In order to give pharmacies authority as a center, State Boards of Health should be asked to designate coöperating pharmacies as "Auxiliary Public Health Information Centers" or a similar title. This designation should appear over the rack which holds the literature.

3. Each section of the country has its own particular health problems. In some areas it is

colds and influenza, in others it is malaria, and in others it is dysentery. Thus, no national program can be adapted to the particular requirements of different sections, but pharmacists in these areas can plan their programs to fit their community needs. State pharmaceutical associations should confer with State Boards of Health, as suggested by Dr. Coffey, to determine just what the health problems of the state are and to map out how pharmacists can best enlist their services to solve them. Individual pharmacists should also discuss the problems of their own communities with local health officers to obtain suggestions on problems which need attention.

4. Dramatize good health in window displays, counter displays, and in your newspaper advertising. Emphasize the importance of healthy workers to the defense program and hammer away at such rules as—eat wisely, dress properly, get plenty of sleep, avoid exposure to colds or contagious diseases, etc. Urge the public to call a physician at the first sign of illness.

Use such themes as "It's Patriotic To Be Healthy," "Your Country Needs Healthy Men and Women," "You Help Win the War When You Stay Well and On the Job," "Sickness Can Defeat Us—Stay Well," and "Disease Loses Wars."

For human interest material to give your displays and advertising appeal you may develop the following facts to show how disease has affected the destiny of nations:

- (a) The thirty-year war between Athens and Peloponnesian States, headed by Sparta, in 431 B. C., was decided by the "Plague of Athens," an epidemic which humbled the mighty Athenians and took its toll of the Peloponnesians and opened the way for the rise of Rome.

- (b) The Roman Empire, and with it civilization, was wrecked in the Sixth Century by a bubonic plague which began in Egypt and spread over all of Europe.

- (c) Constantinople was saved from the Huns in 425 A. D. by a plague which decimated the invading army.

- (d) Typhus fever killed 21,000 of the 25,000 members of the French army besieging Naples in the 16th Century, forced the withdrawal of the troops, and made it possible for Charles to be crowned Emperor of Rome.

(e) The Haitian Republic was established by a revolt which was successful because 22,000 of the 25,000 in the French Army of General Leclerc died of yellow fever.

(f) The reason why the Pilgrims met with so little resistance from the American Indians was because the preceding few years had seen the tribes which once numbered thousands reduced to mere handfuls by disease.

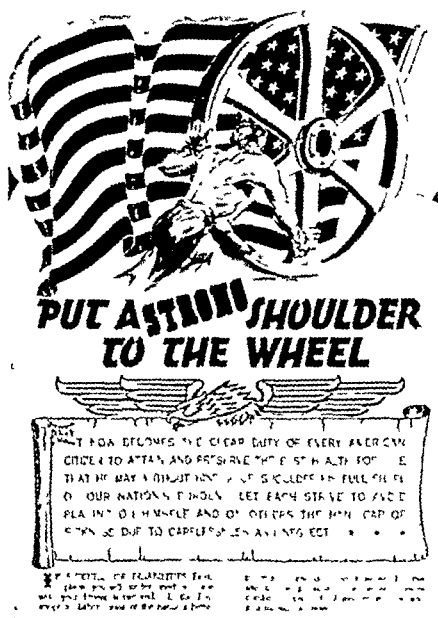
(g) Malaria defeated the attempts of the French to build the Panama Canal.

COMBATING NEGLECT

The second half of the job of keeping the American public well is to combat the neglect of minor ailments which may develop into serious illnesses. The pharmacist is the key man in such a program because a tremendous proportion of his customers bring their ailments to him first for advice. Most people call a physician or consult a dentist as the last resort, after all other measures have failed. They will try a remedy some friend recommended, take the medicine that a physician prescribed for some other member of the family, or they will simply go to the pharmacist and ask for "Something for a cold, a cough, an upset stomach, or for persistent constipation." In some cases they cure themselves, but in an equal number of cases the treat-

ment is ineffective and the disease develops to the point where the individual is incapacitated for two weeks instead of two days as would have been the case if he had sought the services of a physician promptly. In the fight against disease the physician is often at a disadvantage because he sees the patient too late. The pharmacist, on the other hand, is literally the "First Line of Defense" and on his advice the health and welfare of the community—even life or death—often depend. The pharmacist now, of all times, should discourage unwise self-medication, should refuse to refill prescriptions for other than the original patient, and should urge persons who ask his advice to see a competent physician in the early stages of his ailment. Drive home the message, "you can't afford to take a chance." Emphasize that the only completely satisfactory method of treating disease is to have a competent physician diagnose the condition, prescribe suitable drugs for it, and then have a qualified pharmacist prepare the medication.

Here is the pharmacist's opportunity to prove how important he can be in the maintenance of public health and, once established, his place in this work will be of ever-increasing prominence in war or peace. Pharmacists must mobilize to form an invincible "Front Line of Defense Against Disease" to protect the "Army Behind the Army."



The attractive easel card, shown at the left, currently being distributed to retail pharmacists by the Pictorial Paper Package Corporation, of Aurora, Illinois, carries out the theme of maintaining the "Army Behind the Army"

Druggists' Digest

OF NEW FORMULAS, RECENT PHARMACEUTICAL DEVELOPMENTS, AND OTHER PROFESSIONAL DATA

NIACIN IS NEW NAME FOR NICOTINIC ACID

Because the public has had apprehension toward the names nicotinic acid and nicotinic acid amide in the belief that they indicated that the drug was related to nicotine, Federal Security Administrator Paul V. McNutt has accepted the recommendation of the Committee on Food and Nutrition of the National Research Council that the term "niacin" be adopted as a synonym for nicotinic acid and the term "niacin amide" as a synonym for nicotinic acid amide.

QUININE-UREA MOUTH RINSE

Urea is an efficient buffering agent for those acids produced in the mouth which are thought to favor the development of dental caries, but urea is active for only a short time. Drs. E. C. Wach, J. F. O'Donnell, and M. K. Hine, of the Department of Dental Pathology and Therapeutics of the University of Illinois, Chicago, have investigated the combination of urea with other drugs in a search for a mouth rinse that would act as a buffer and also be bactericidal. Because quinine salts will prevent the formation of lactic acid and butyric acid and in a pH of 7.4 or above are more actively germicidal, the urea-quinine-glycerin combination was selected. A mouth rinse of the following formula has been developed:

Quinine Hydrochloride.....	0.5
Urea (C.P.).....	4.0
Glycerin.....	25.0
Sterile Distilled Water,	
q. s.....	100.0

Flavoring and coloring were added and the solution adjusted to a pH of 6.8 to 7 by sodium hydroxide. Different concentrations of the drugs are now being tested.

Laboratory tests showed the solution reduced the acidity of saliva-glucose mixtures and reduced the bacterial growth in acid dextrose broth and on tomato agar plates.

Patients were instructed to use the mouth rinse three times a day, holding 1 tablespoonful of solution in the mouth for 3 minutes each time. The salivary pH rose and the bacterial count was markedly reduced.

The rinse is apparently non-toxic, non-irritating to mucous membranes, stable if carefully prepared and stored, inexpensive, and is an effective germicide and buffering agent. One drawback is the bitter quinine taste which persists for 1 to 3 hours but which patients report becomes less objectionable after a few days. Clinical studies of this rinse are being continued.

The authors suggest the possibility of incorporating the quinine and urea in a dentifrice or lozenge.

—*Jour. A. D. A.*, 29, 1 (Jan. 1942) 61-66

PARA-NITROBENZOIC ACID IN TOOTH SOCKETS

When a tooth is extracted bacteria may be released into the system producing a transient bacteremia and various methods of post-extraction therapy to sterilize the area around the wound have been suggested in recent years.

Latest suggestion is the use of a 5 per cent ointment of para-nitrobenzoic acid* in hydrous wool fat. The ointment is placed in a tube with a nozzle and is applied by inserting the nozzle

* Para-nitrobenzoic acid is available from Eastman Kodak Company, Rochester, N. Y.

in the socket as far as possible and slowly removing it as the tube is squeezed. A piece of gauze or cotton pack is laid on the socket and the patient is instructed to close his jaws and retain the pack for at least one hour.

The treatment was developed by Drs. C. A. Griffith, A. D. Hirschfelder, and W. J. Simon, of the Division of Oral Surgery, University of Minnesota School of Dentistry, and the Department of Pharmacology, University of Minnesota School of Medicine.

Para-nitrobenzoic acid has been found to be effective against *Streptococcus viridans*, the predominating organism found in infected sockets after extractions. The authors used the ointment in 528 extractions in which, (1) the teeth were abscessed, (2) the teeth had been ankylosed by sclerosis of bone or condensing osteitis, (3) the teeth were removed and a clot failed to form, and (4) in which surgical interference was necessary, as in impacted teeth. They report that the incidence of alveolalgia, known also as "dry socket," has been reduced from five cases in 100

to 1 case in 176. The reduction in the care of impacted teeth was slight but the healing time was considerable reduced and patients frequently commented that they experienced less pain after its use.

—*Jour. A. D. A.*, 29, 1 (Jan. 1942) 49-60.

SILVER PICRATE IN SINUS INFECTIONS

A solution of 0.1 or 0.2 per cent silver picrate in 7½ per cent glucose solution is an inexpensive and efficient mild germicide for intranasal use in sinus infections, according to Dr. Leon Felderman, of Philadelphia, Pa., who has used it on 200 patients ranging in age from 6 to 66. The solution impedes the production of pus without paralyzing the ciliary activity of the nose, he reports.

—*Pa. Med. Jour.*, December 1941.

Col. Frank Knox, Secretary of the Navy, receiving a certificate of Honorary Membership in the New Hampshire Pharmaceutical Association from Dr. E. F. Kelly, Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION. Dr. Kelly made the presentation at the request of Secretary George A. Moulton, of Peterborough, N. H. Col. Knox was unable to be present at the New Hampshire Convention which elected him.

U. S. Navy Official Photo.



FRANK NAU WINS

PHARMACY WEEK DISPLAY AWARD

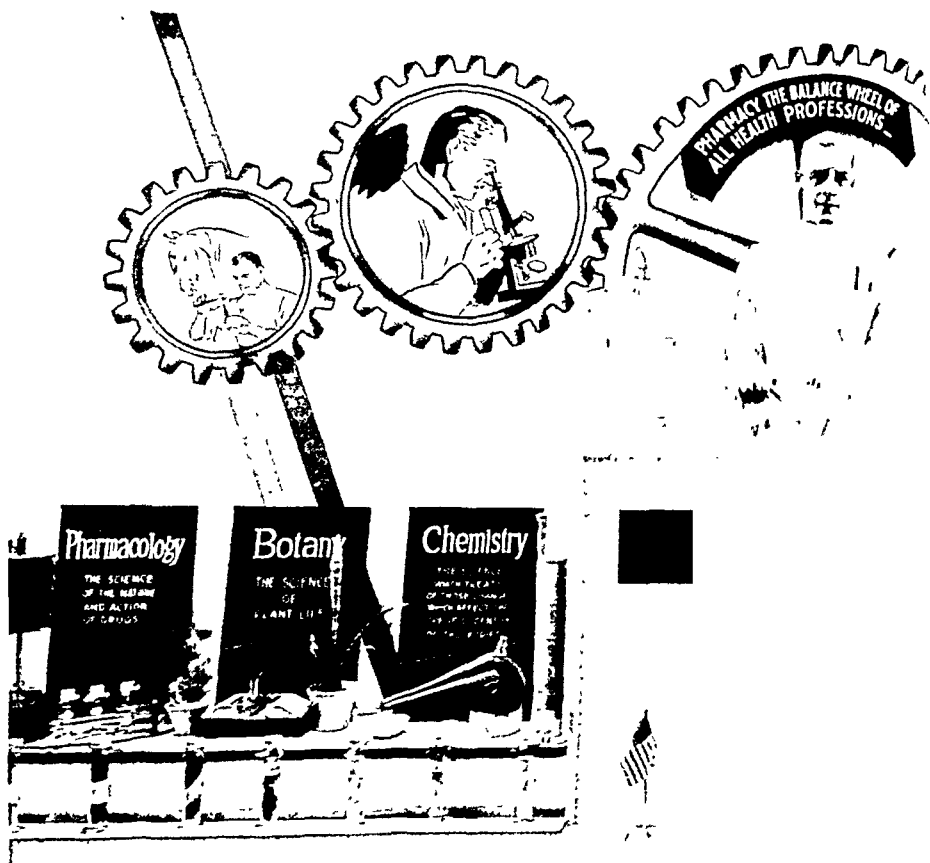
PORTLAND PHARMACIST'S WINDOW IS JUDGED BEST OF THE PROFESSIONAL DISPLAYS INSTALLED IN THE 1941 OBSERVANCE

THE WINDOW display of Frank Nau, of Portland, Oregon, has been judged the best Pharmacy Week Display of 1941, according to the announcement of John O'Brien, of Omaha, Nebraska, Chairman of the National Pharmacy Week Committee. Mr. Nau will receive the

Robert J. Ruth Trophy donated by the Federal Wholesale Druggists Association.

In announcing the winners of the 1941 competition, Mr. O'Brien stated that a greater number of displays were entered this year than ever before and several States which have not competed in the past were represented this year.

In the contest of displays prepared by the students of colleges of pharmacy, first prize was awarded to the Columbia University College of Pharmacy, second prize was awarded to the Rutgers University College of Pharmacy, and third prize was awarded to the Louisville College of Pharmacy.



The Pennsylvania Pharmaceutical Association won first prize for association displays, and the Ohio Valley Druggists Association was awarded second prize.

A list of the winning displays of pharmacists, and a brief description of the windows, follows:

Grand Prize, Frank Nau, 519 Southwest 6th Avenue, Portland, Oregon. The winning window presented the pharmacist as a central wheel in a series of meshed gears, between the physician, the dentist, the nurse, the laboratory analyst and the veterinarian. Presented by means of cards a number of subjects which enter into the professional training of pharmacists occupied an important place in the front of the window. Scientific apparatus was used to dress up the rest of the display.

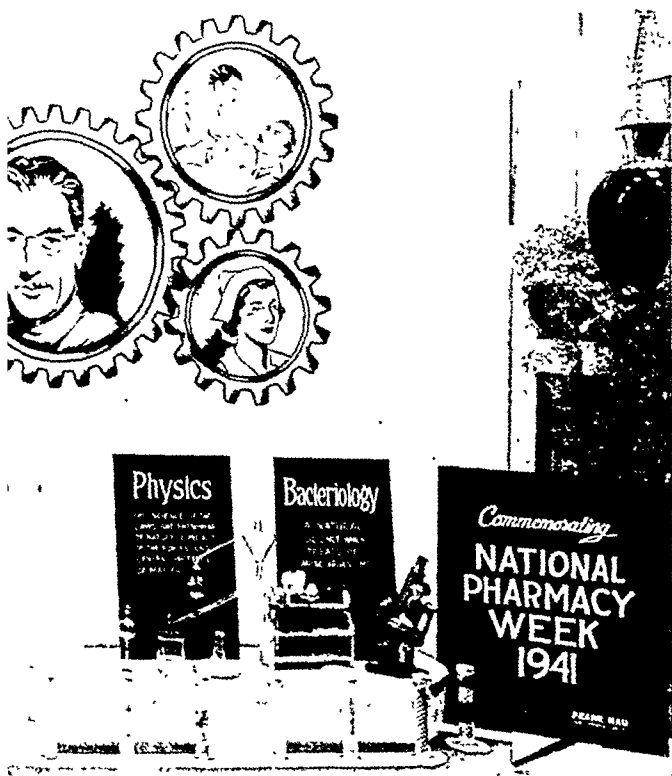
Award No. 1, John A. Klingstedt, 1030 Broadway Street, Rockford, Illinois. The pharmacist's relation to national defense was emphasized in Mr. Klingstedt's window by reference both to

the world's great pharmaceutical laboratories and the pharmacist's prescription laboratory. An interesting touch was achieved by cards bearing specimens of various crude plants. A patriotic color scheme was carried throughout the window.

Award No. 2, Bergens Pharmacy, 5433 North 5th Street, Philadelphia, Pennsylvania. "Autumn's Blessing to Pharmacy" was the theme of the Bergens Pharmacy display. Both pictures and samples of crude drugs, combined with an artistic harvest scene background, made a very attractive window.

Award No. 3, L. C. Ellis, Hook's Drug Store #2, 3rd and Washington Street, Marion, Indiana. "When the Pyramids were young, Pharmacy was an old profession" was the theme of the No. 3 award. Apparatus and crude drugs were combined in an effective display.

Award No. 4, H. N. Ruud, LaCrosse, Wisconsin. A prescription case in reverse was featured



Window display of Frank Nau, Portland pharmacist, which won the grand prize in the 1941 National Pharmacy Week Window Display Competition. It depicts the pharmacist as the center cog wheel which gears scientific research with the practice of medicine. It is an excellent portrayal of the services of pharmacy in making the products of the research laboratory available to physicians and the public of every community.

in the display by H. N. Ruud. This represented the working side of a prescription room complete with equipment, laboratory, biological refrigerator, and certificate of registration.

Award No. 5, Crystal White Pharmacy, 4618—13th Avenue, Brooklyn, New York. "Pillars of Progress," representing the physician, the public and the pharmacist was the central theme of the window. The entire background of this display was made up of actual prescriptions mounted on the wall.

Award No. 6, Wagner & Wagner, Baltimore and Eutow, Baltimore, Maryland. Pharmacy and National Defense was the central theme of the Wagner & Wagner display, with a huge mortar and pestle flanked by two flags and two American eagles as a centerpiece. Apparatus, both antique and modern, plus crude drugs made up the balance of the display.

Award No. 7, Higgers Pharmacy, 5015 Connecticut Avenue, Washington, D. C. A mammoth reproduction of a prescription, surmounted by the line "According to the Art of the Apothe-

cary" was the central feature of this display. Show globes, professional books and apparatus plus pharmacist's license, completed the display.

Award No. 8, Centerdale Pharmacy, Centerdale, Rhode Island. Pharmacy and Medicine with their hands joined in confidence was the theme of the Centerdale display. In addition to ancient prescription files, apparatus and modern books were arranged orderly in this display. Enlarged photographs of professional scientists decorated the background.

Award No. 9, A. C. MacInnes, 4301 Upton Avenue South, Minneapolis, Minnesota. "As old as the ancients, yet as modern as to-morrow" was the theme of the MacInnes display. Centrally it featured the prescriptions of to-day and hinted at to-morrow's research developments.

Award No. 10, Lebensburgers Drugs, 501 Salem Avenue, Dayton, Ohio. "Our part in National Defense is your safety and health" was the message of the No. 10 award. Stair-step shelves from the center displayed various types of apparatus with cards giving their use.

Second Edition of Professional Pharmacy

Notwithstanding that the Second Edition of Professional Pharmacy contains 25 more pages than the First Edition, it has been possible to continue the same price per copy, namely, 25 cents. A discount of 10% on 10 or more copies is allowed; 15% on 100 or more; 20% for 250 or more; and 25% for 1000 or more.

Referring to a few of many sources of information: A prominent State Board of Pharmacy official pointed out that the Professional Pharmacy enables State Inspectors to compare the inventory of new drug stores with the basic list of prescription items on pages 65 to 82, inclusive.

Applicants for registration, who contemplate opening a pharmacy, may find lists of necessary items and the probable quantity required and approximate cost.

A table gives the form in which prescriptions are called for, supplying information relative to the needs of the prescription department and prevent overbuying and unnecessary purchases.

Throughout, the helpful purpose is evident to aid the druggist and pharmacist by presenting actual data from surveys, which Board Members, State Pharmaceutical Association Officials and Members of Faculties can bring to the attention of Registrants, Members of Associations and Students.

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ALL-PHARMACY CONFERENCE

FEBRUARY 20-21

SECRETARIES OF EVERY STATE PHARMACEUTICAL ASSOCIATION INVITED TO WASHINGTON FOR DISCUSSION OF IMPORTANT PROBLEMS FACING PROFESSION

SECRETARIES of State Pharmaceutical Associations from all sections of the United States will meet at the American Institute of Pharmacy, Washington, D. C., on February 20th and 21st, on the invitation of the AMERICAN PHARMACEUTICAL ASSOCIATION to discuss several urgent problems now confronting the pharmacists of the country. Chief among the topics to be discussed are the following:

1. *The Civilian Defense Organization*, and the leadership that State Pharmaceutical Associations should give pharmacists as further emergencies may arise.

2. *The Selective Service Registration*, and the assistance that State Pharmaceutical Associations must give to Local Draft Boards in order that the large number of men needed by the armed forces may be secured with a minimum of disruption to civilian pharmaceutical services and to pharmacists.

3. *Pharmacists in the Armed Forces*, and the assistance that State Pharmaceutical Associations can give to current plans to extend the usefulness of these men and to insure that they serve in the capacity for which they are trained.

4. *Shortages of Drugs, Chemicals and Pharmaceuticals*, and the price and priority problems they create, on which State Pharmaceutical Association Secretaries are called upon to advise pharmacists.

5. *Pharmacists in Public Health Work*, and the leadership that State Pharmaceutical Associations must give in the gigantic task of preventing any widespread incidence of disease during this critical period when every man-hour of work is needed to keep the production of defense materials up to schedule.

6. *Hours and Wages*, and the problems created by defense industries, and by the induction of a greatly increased number of pharmacists into the armed forces and the resulting effect on student enrollment.

7. *Food and Drug Problems*, and the State Pharmaceutical Association's responsibility in this connection.

High ranking government officials will discuss the developments which have led up to these various problems and the State Association Secretaries will try to work out practical plans for their solution. Such plans as are developed will then be taken back to each State and put into action.

The special conference is the outgrowth of a recommendation of former President Charles H. Evans in his presidential address before the Detroit convention. The convention passed a resolution authorizing the conference, and the Council of the Association at its October 1941 meeting laid the preliminary plans. No definite time was set for the conference by the Council but events within the last few weeks have created problems of such importance that it was decided to call the conference as soon as possible.

Jennings Murphy, Chairman of the Conference on Pharmaceutical Association Secretaries and Secretary of the Wisconsin State Pharmaceutical Association, and Dr. B. V. Christensen, of Columbus, Ohio, President of the AMERICAN PHARMACEUTICAL ASSOCIATION, will preside at the meeting. Mr. Murphy and Dr. Christensen came to Washington in January to assist in developing the program.



IN THE NEWS

Dr. Robert P. Fischelis, secretary of the New Jersey Board of Pharmacy and Chairman of the Council of THE AMERICAN PHARMACEUTICAL ASSOCIATION, has been appointed Chief of the Medical and Health Supplies Section, Division of Civilian Supply, of the War Production Board. He will organize the Section and direct it on a part-time basis, having been loaned by the New Jersey Board with the approval of Governor Edison. The Section will study civilian needs and plan for the proper allocation of available medical and health supplies to meet such needs.

Distribution of samples of products containing narcotic drugs has been ordered discontinued by H. J. Anslinger, Federal Commissioner of Narcotics, on the ground that the practice is wasteful in that considerable quantities of narcotics are scattered about where no need for the medicine actually exists. The necessary conservation of narcotic supplies requires a limitation of their use to instances where they are actually required for specific medicinal purposes, said Commissioner Anslinger.

Wholesale dealers in narcotic drugs have been requested by H. J. Anslinger, Federal Commissioner of Narcotics, to restrict their purchases of such drugs to current requirements and in no case to purchase more morphine, codeine, or dionin during 1942 than was purchased during the year 1940 without first securing approval of the additional quantity from the Federal Bureau of Narcotics.

Cadmium, used as a substitute for aluminum in cooking utensils and refrigerator ice trays, has caused several outbreaks of cadmium poisoning and manufacturers have been advised against its use by Federal Security Administrator Paul V. McNutt. Symptoms of cadmium poisoning include acute gastritis, nausea, cramps, vomiting, diarrhea, and weakness. Illness may occur within 10 minutes after eating or drinking the contaminated food. As little as 15 parts per million of cadmium may cause acute symptoms and foods containing acids are particularly liable to be affected. None of the recent cases were fatal but chronic poisoning, with severe damage to vital organs, results from repeated exposure.

Eligibility rules for the Kilmer Prize, consisting of a gold key awarded annually for meritorious work in pharmacognosy, have been announced as follows:

(1) The author of a paper on some phase of pharmacognosy, who is a member of the last graduating class of any college or school of pharmacy, prior to the annual meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION, is eligible for the award. Can-

didates for advanced degrees are not eligible. Accordingly, students entering into competition for this prize must be members of the present senior class of a college or school of Pharmacy.

(2) Papers eligible for the award must be the result of the student's own work, and may be based upon either laboratory or library research or both. They must be written during the last year of the candidate's course in Pharmacy and submitted in triplicate.

(3) The head of the Pharmacognosy Department in each school or college shall select the one to three best papers submitted by the graduating class of his particular school.

(4) Each school or college is privileged to send these papers to the Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION, 2215 Constitution Avenue, N. W. Washington D. C., and in order to be entered for the 1942 award, they must be received by the Secretary *not later than June 1, 1942*. The papers submitted must not reveal the identity of the school nor of any of the teachers connected therewith. A sealed envelope containing the summer address of the author and a certified statement from an officer of the institution that the contestant is a full-fledged senior and candidate for graduation in June, 1942, must accompany each paper.

(5) The Kilmer Prize Committee will select the winner from the papers submitted and the winner will be notified about two weeks prior to the date of the meeting in Denver to enable him or her to make plans for attending it.

(6) If the Committee finds no paper sufficiently meritorious, no award will be made.

The Home Medicine Chest should become a weapon of civilian defense, according to an announcement of the Consumer Division of the Office of Price Administration, and should include the following items:

"Tannic acid jelly for burns; a pain-reliever, such as aspirin; a remedy for faintness, such as aromatic spirits of ammonia; baking soda, to be used as an emetic or relief from indigestion; a mild laxative; bandages and sterile gauze in sealed packages; adhesive tape; a thermometer; scissors; and tweezers.

"Only tannic acid jelly should be used for burns. Under no circumstances should a greasy or oily ointment be used, as it must later be removed by a physician, and its removal is a dangerous and painful process.

"Aspirin, in 5-grain tablets, is a good drug for the relief of pain, but it should be used in small doses and should not be taken too frequently.

"For faintness, aromatic spirits of ammonia is recommended. It should be purchased in small

quantities and kept well-stoppered, because it evaporates quickly when exposed to air.

"Bandages, gauze, and adhesive tape should be purchased in small quantities and kept covered or sealed against dust and dirt. These items, used in dressing wounds, should be on hand in a variety of sizes to take care of several possible needs, from cut fingers to more serious injuries.

"Some strains and tensions may develop in air-raid practices and blackouts, resulting in mild stomach disorders, and the home medicine cabinet should carry remedies for these ailments. Baking soda is useful for relieving indigestion; taken freely, it is good as an emetic to stimulate vomiting. Mineral oil and milk of magnesia are the safest laxatives. These are the only two items recommended for the relief of constipation."

The Pharmacy Subsection of the American Association for the Advancement of Science, which met in Dallas, Texas, Monday, December 29th, received the following papers:

1. The Fatty Acids in *Hydrastis canadensis* L. by Dean Elmer L. Hammond, University of Mississippi.

2. Some New Aspects of the Hypnotic and Analgesic Effects of Selected Barbiturates by Dr. Donald Slaughter, Baylor University, Dallas, Texas.

3. A Phytochemical Study of *Leptotaenia Multifida* Muttall by Wm. R. Lloyd, University of Georgia, Athens, Ga., and Glenn L. Jenkins, Purdue University, West Lafayette, Ind.

4. Official Medicaments, an Answer to Present Drug Shortages by Dr. Leon Richards, Howard College, Birmingham, Alabama.

5. Thymol and Carvacrol in Plants by C. C. Albers, University of Texas, Austin, Texas.

6. A Phytochemical Study of *Ephedra Nevadaensis* by Lloyd E. Harris, University of Oklahoma, Norman, Oklahoma.

7. Petro Waxes by Dr. Lloyd E. Harris, University of Oklahoma, Norman, Oklahoma.

8. A Phytochemical and Pharmacological Study of *Hermidium Alipes*, S. Wats. by Dr. Curtis H. Waldon, University of Montana, Missoula, Montana, and Glenn L. Jenkins, Purdue University, West Lafayette, Indiana.

The next meeting of the American Association for the Advancement of Science will be held in Ann Arbor, Michigan on June 22-24, 1942. Authors who wish to present papers before the Subsection are requested to send in titles of papers as soon as possible to Glenn L. Jenkins, secretary of Subsection NB, School of Pharmacy, Purdue University, Lafayette, Indiana.

1. Papers should require not more than 30 minutes for presentation.

2. Three copies of a brief abstract of each paper should be available well in advance of the meeting. These are used by the General Secretary and the Subsection Secretary for the presentation of news releases and reports.

3. The need for lantern, blackboard, or chart hanging facilities should be indicated.

4. An original copy of the paper in form for publication should be turned in at the time of the meeting.

Agar supplies in this country were frozen in the hands of all persons having more than fifty pounds in their possession by the War Production Board on February 9th. The purchase or sale of agar, from or by persons with more than 50 pounds in their possession, is prohibited except as specifically ordered by the Director of Industry or for use in bacteriological media. Such sales must be certified to the seller and a record furnished to WPB. Persons with more than 50 pounds in their possession must report the amount on hand to WPB within 15 days.

LABELING OF LIVER PREPARATIONS

Although the U. S. P. requires that the average dose of liver preparations be stated on the label, the Federal Food and Drug Administration recognizes the fact that this information means little to the layman who cannot possibly determine the proper dosage, frequency, and duration of administration of such preparations for the treatment of his particular case of pernicious anemia. Such preparations are sold over-the-counter to persons who take them on the advice of physicians, yet it is impossible to label them with adequate directions for use in conformity with provisions of the Federal Food, Drug and Cosmetic Act.

Therefore, the Food and Drug Administration has expressed the opinion that if the label of liver preparations carries the statement, "appropriate dosage, frequency, and duration of administration should be ascertained by a physician," it will comply with requirements of the Act with respect to directions for use.

It is important to note that the use of this statement does not restrict the dispensing of such preparations to physicians' prescriptions. Actually, it makes it possible to sell them over-the-counter.

Vitamin A must be conserved for human consumption, according to the War Production Board which issued an order on February 10th which does the following:

1. Prohibits, beginning February 10th, the manufacture of multivitamin tablets, capsules, pills, or liquids, containing more than 5,000 units of Vitamin A in the largest daily dose recommended by the label or accompanying instructions.

In explanation of this prohibition, the WPB Health Supplies Branch pointed out that a competent medical authority states the average human body cannot absorb more than 5,000 units of Vitamin A per day, so that when multivitamin products contain over 5,000 units, the units in excess of 5,000 are wasted.

2. The above restrictions do not apply to preparations containing only Vitamin A, or preparations containing Vitamins A and D where the Vitamin A potency is 25,000 units or more in the recommended daily dosage. Such a preparation is intended as a therapeutic dose for persons suffering from an unusual insufficiency of Vitamin A, in which cases the body can absorb more than 5,000 units per day.

The restrictions do not apply to multivitamin separation recognized in the U. S. P. or N. F.

3. Prohibits, beginning February 10th the use or dilution for use in the manufacture of feed of fish liver oil with a potency of more than 12,000 units of Vitamin A per gram. The reason for this prohibition is to conserve for human consumption fish liver oil having a high potency. The feed referred to means natural or artificial feedstuffs or rations for poultry, cattle, fur-bearing or other animals.

4. Prohibits, beginning April 10th, the manufacture or preparation of feeds which in the form recommended for consumption contain more than 1,000 units of Vitamin A per pound, derived from fish or fish liver oils.

The Health Supplies Branch stated that many feeds to-day contain an excess of Vitamin A. This occurs where fish oils are used for their Vitamin D content which is found in combination with Vitamin A in fish liver oils. In such instances feed manufacturers may fortify their product by adding synthetic Vitamin D to make up the difference caused by this restriction. It is believed also this order should stimulate the production of Vitamin A from

other than fish liver sources such as carrots and alfalfa.

While other sections of the order become effective February 10th, the prohibition in No. 4 is deferred until April 10th in order to give feed manufacturers time in which to make whatever changes in formulae required by the order.

The main source of Vitamin A has been fish liver oils. Supplies from Norway and Japan before the war accounted for approximately 75% of the total consumed in the United States. Vitamin A is found also in several vegetables and in dairy products.

Vitamin A is essential for maintaining good eyesight and as such is especially essential for the Air Corps. A deficiency of it often causes "night blindness." Vitamin A also aids in building up resistance against infection, said WPB.

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"Photograph of Headquarters, A. Ph. A.," mat, \$1.00.

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"Dr. William Withering," of Digitalis fame, \$1.00.

"Post Cards, Exterior and Interior," set of 7, 25 cents.

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Sculptural Panels of AMERICAN INSTITUTE OF PHARMACY, about 11 by 15 inches; single \$1.00 each; when two are ordered at same time, \$1.50 prepaid.

"Pharmaceutical Abstracts," unbound, no cover, 25 cents monthly; discount if five or more are ordered at same time.

JOURNAL, A. Ph. A., Back Numbers, unbound, per volume, \$4.00. Bound volumes, per volume, \$6.00.

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All you have to do is offer your employees the convenience of having a fixed sum allotted from each pay envelope to the purchase of Defense Bonds. Each employee who chooses to start this savings plan decides the denomination of the bonds to be purchased, and the amount to be allocated from his wages each pay day. You deliver a bond to the employee each time his allotments accumulate to a sufficient amount.

Plenty of help available. The Treasury Department is ready and willing to give you all kinds of help. Local civilian committees in 48 States are set up to work with you just as much as you want them to, and no more. We will supply most of the necessary material.



The first step is to take a closer look. Writing for details in no way obligates you to install the plan. It simply indicates that you'd like to do *something* to help keep your people off relief when defense production sloughs off; *something* to enable *all* wage-earners to participate in financing national defense; *something* to retard inflation and store up tomorrow's buying power. So, write for the free kit of material being used by companies that have installed the Voluntary Defense Savings Pay-Roll Allotment Plan. Address: Treasury Department, Section A, 709 Twelfth Street NW., Washington, D. C.

BRANCH MEETINGS

MICHIGAN—The October meeting of the Michigan Branch was addressed by Ernest R. Jones, of Parke Davis and Company, on the subject of pH. He was followed by Morris Mellen, of the L. A. Seltzer Pharmacy, who spoke on the application of pH to the preparation of eye, ear, and nose solutions. Don E. Francke, Assistant Chief Pharmacist of the University of Michigan Hospital, discussed the application of pH to the preparation of solutions used in hospitals.

On December 29th, one hundred and forty pharmacists and their wives paid tribute to Dr. Leonard A. Seltzer, Detroit pharmacist, at a testimonial dinner in his honor, sponsored by the Branch.

NEW YORK—Willard R. McHargue, of E. R. Squibb and Sons, Inc., addressed the November meeting of the New York Branch on the subject of the "These Complex Vitamins."

The December meeting of the Branch was held at the Brooklyn College of Pharmacy, Long Island University, at the invitation of the Kings County Pharmaceutical Society. Dr. Wynand Pyle, of Hoffmann-La Roche, Inc., addressed the meeting on "The Clinical Aspects and Nature of Male Sex Hormones," Dr. J. A. Morrell, former Director of Glandular Products of E. R. Squibb and Sons, Inc., spoke on "The Clinical Aspects of Stilbestrol and Other Female Hormones."

Leonard W. Steiger was elected president of the Branch at its January meeting. Other officers elected include Horace T. F. Givens, *vice-president*; Frank J. Pokorny, *secretary*; and Turner F. Currens, *treasurer*. The Branch elected the following Committee Chairmen: Robert S. Lehman, Education and Legislation; Samuel S. Liberman, Progress of Pharmacy; F. C. A. Schaefer, Membership; O. F. A. Canis, Audit; Charles W. Ballard, Professional Relations; Gustave Bardfeld, Program; Hugo H. Schaefer, Remington Medal; and Curt P. Wimmer, Delegate to the House of Delegates. The January meeting was addressed by Dr. H. van Zile Hyde, Senior Surgeon, U.S.P.H.S. and Medical Officer of the 2nd Civilian Defense Region, on the subject of "The Pharmacist in Civilian Defense." Milton Malakoff, Editor of *The New York State Pharmacist*, spoke on the "State Association Pharmacy Defense Program."

PHILADELPHIA—Dr. George W. Raizies, of Abbott Dermatological Research Laboratories, addressed the November meeting of the Philadelphia Branch on the subject of "New Developments in the Chemotherapy of Sulfanilamide Derivatives."

Dr. John Henderson, of Sharp and Dohme, addressed the December meeting of the Branch on the

subject, "The History, Preparation, and Use of Normal Human Plasma." Dr. Frank Kai-ming Su, of the United China Relief, discussed the work of his organization and the Branch contributed fifty dollars to its fund.

Dr. Allan R. Day, of the University of Pennsylvania, addressed the January meeting describing recent research on various compounds possessing the imidazole nucleus.

NORTHERN NEW JERSEY—Lester Van D. Chandler, Health Officer of the City of Hackensack, addressed the November meeting of the Branch, describing the work of local boards of health and pointing out the services which pharmacists can render in such programs.

William L. Sampson, of the Merck Institute of Therapeutic Research, addressed the December meeting on the "Complexity of the Vitamin B Complex."

WESTERN NEW YORK—The January meeting of the Branch was devoted to a discussion of four important subjects by Buffalo physicians. Dr. Harry G. LaForge spoke on "Endocrine Products," Dr. L. Maxwell Lockie spoke on "Sulfonamide Drugs," Dr. Frank Meyers spoke on "Sedatives on Hypnotics," and Dr. David K. Miller spoke on "Vitamins."

OBITUARY

CLIFFORD CONKLIN GLOVER

Clifford C. Glover, professor of pharmacognosy and secretary of the College of Pharmacy of the University of Michigan, Ann Arbor, died on January 31st. He was 54 years of age.

Professor Glover was born in Jackson, Michigan. He was graduated in pharmacy by the University of Michigan in 1912 and continued his studies there receiving the degrees of Bachelor of Science and Master of Science in 1913 and 1914, respectively. He joined the faculty of his alma mater in 1913 and, with the exception of one year spent in botanical research at Columbia University, he remained at Michigan for his entire teaching career.

He was a member of the AMERICAN PHARMACEUTICAL ASSOCIATION, the Michigan Academy of Science, the American Chemical Society, and numerous fraternities. He contributed to many pharmaceutical journals and was the author of three laboratory manuals on food analysis, drug analysis, and pharmacognosy.

Professor Glover is survived by his wife and two daughters.

National Associations

Name	President	Secretary	Meeting Place	Date
American Association of Colleges of Pharmacy	R. A. Kuever	Zada M. Cooper, Iowa City, Iowa	Denver, Colo.	August '42
American Association of Apothecaries	Max N. Lemberger	Chas. V. Selby, 220 Millford St., Clarksburg, W. Va.	Denver, Colo.	August '42
American Drug Manufacturers Association	S. De Witt Clough	Carson P. Frailey, 506-7 Albee Bldg., Washington	White Sulphur Springs, W. Va.	
American Pharmaceutical Manufacturers' Association	Bordner F. Ascher	S. Barksdale Penick, Jr., 132 Nassau St., New York City	Swampscott, Mass.	
Canadian Pharmaceutical Association	W. A. McKnight	O. M. Hurrell, 100 Adelaide St., W., Toronto	Vancouver	
Federal Wholesale Druggists Association	Sidney C. James	Ray C. Schlottterer, 41 Park Row, N. Y. C.	Hot Springs, Va.	
National Association Boards of Pharmacy	Paul Molyneux	H. C. Christensen, 130 N. Wells St., Chicago, Ill.	Denver, Colo.	August '42
National Association of Retail Druggists	Hugh P. Beirne	John W. Dargavel, 205 Wacker Drive, Chicago, Ill.	Cleveland, O.	
National Wholesale Druggists' Association	P. A. Hayes	E. L. Newcomb, 330 W. 42nd St., N. Y. C.	White Sulphur Springs, W. Va.	
Proprietary Association	C. S. Beardsley	C. P. Tyrrell, Syracuse, N. Y.	New York City	
CONFERENCES AND SEMINAR				
Conference of Pharmaceutical Association Secretaries	Jennings Murphy	Mrs. C. B. Miller, Topeka, Kans.	Denver, Colo.	August '42
Conference of Pharmaceutical Law Enforcement Officials	R. P. Fischelis	M. N. Ford, Columbus, O.	Denver, Colo.	August '42
National Conference of Pharmaceutical Research	H. W. Youngken	J. C. Krantz, Jr., Baltimore, Md.	Denver, Colo.	August '42
National Drug Trade Conference	Carson P. Frailey	Rowland Jones, Jr., 1163 National Press Bldg., Washington, D. C.		
Plant Science Seminar	A. John Schwarz	Elmer H. Wirth, 833 S. Kenilworth Ave., Oak Park, Ill.	Science Bldg: University of Colorado	August 10-15 1942

State Boards of Pharmacy

Name	President	Secretary
Alabama	J. A. Edwards	C. B. Goldthwaite, Box 295, Troy
Alaska	H. R. Vander Leest	Elwyn Sweetmann, Seward
Arizona	J. B. Ryan	N. W. Stewart, 401 Title & Trust Bldg., Phoenix
Arkansas	C. R. Counts	H. W. Parker, Jonesboro
California	H. G. Cunningham	John Foley, 515 Van Ness, San Francisco
Colorado	J. A. Van Lopik	Ralph E. Kemp, 619 Majestic Bldg., Denver
Connecticut	George Blackall	Hugh P. Beirne, 418 State Capitol, Hartford
Delaware	George W. Brittingham	John O. Bosley, Wilmington
District of Columbia	A. C. Taylor	L. F. Bradley, 701 Maryland Ave., N. E., Washington, D. C.
Florida	J. K. Attwood	R. O. Richards, Ft. Myers
Georgia	Van P. Enloe	R. C. Coleman, State Capitol, Atlanta
Idaho	Charles Carter	James J. Lynch, 801 Main Street, Boise
Illinois	Jos. Allegretti	Philip M. Harman, Supt. Regis., Springfield
Indiana	Russell Rothrock	Fred E. Thomas, State House, Indianapolis
Iowa	D. H. Redfield	John Rabe, State House, Des Moines
Kansas	Kelsey Petro	Gene Cook, Box 386, Iola
Kentucky	Charles H. Tye	E. M. Josey, 228 W. Main St., Frankfort
Louisiana	P. L. Grossimon	K. M. Frank, Franklin
Maine	Burton K. Murdock	George O. Tuttle, Portland
Maryland	L. N. Richardson	L. M. Kantner, 2411 N. Charles St., Baltimore
Massachusetts	Timothy S. Shea	Frank East, State House, Boston
Michigan	Stewart Dodge	E. J. Parr, 503 Mutual Bldg., Lansing
Minnesota	John Nelson	F. W. Moudry, 3985 Minnehaha Ave., Minneapolis
Mississippi	Sam J. McDuffie	Lew Wallace, 1207 Fifth Ave., Laurel
Missouri	Charles R. Bolirer	Ted D. Willard, Camdenston
Montana	H. E. Rakeman, Jr.	J. A. Riedel, Boulder
Nebraska	Robert Kirkman	Mrs. Jeannette Crawford, State House, Lincoln
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PHARMACISTS AND PHYSICIANS AT CLEVELAND

NO RESOLUTIONS were adopted at the joint conference of the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Medical Association held at Cleveland, April 6th. None was necessary to express the very obvious conclusions of the meeting which might be summarized as follows:

1. The demands of the present emergency on medicine are particularly great. Not only are thousands of physicians being taken out of civil life to serve in the armed forces, but the part-time services of many thousands of doctors are needed by Selective Service Boards to pass on the physical qualifications of selectees. The withdrawal of physicians from private practice means that those who remain in civil life will have to spread their services and facilities to serve a greater number of people, and when you place the additional Selective Service duties on their shoulders, it is evident that they can well use the assistance of qualified individuals of the other health professions to ease their burdens wherever this is possible.

2. The education and training of the pharmacist has developed to the point where to-day he is qualified to render greater professional services to physicians and to the public than he is being called upon to perform. His present pharmaceutical duties do not require his full time and the pharmacist has the capacity to take on additional responsibilities in public health work and in other phases of professional activity for which he is trained and thus to relieve

physicians. The services of the pharmacist would be more completely utilized and the services of the physician would be more effectively employed, the net result being more efficient medical and pharmaceutical service.

Elsewhere in this issue will be found a detailed report of the addresses before the conference. Speakers traced the common history of medicine and pharmacy, analyzed the trends in pharmacy which have been developing during the past decade or two, explained the present-day education and training of pharmacists, and outlined the problems facing pharmacy and medicine during the war and after.

The conference recommended that both the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Medical Association give careful study to the addresses delivered at the meeting, and well they might, for in these presentations is sounded a call to action. A closer coördination of medical and pharmaceutical personnel and facilities has always been desirable; to-day it is a vital necessity.

In the face of the facts presented at the Conference there should be no question of the need for carrying on this interprofessional work and developing a program of specific recommendations for the guidance of physicians and pharmacists in making the fullest use of the services of each. This program should be carried down through every state medical and pharmaceutical association and put into effect by individual pharmacists and physicians in their respective communities.

The joint A. M. A.-A. P. H. A. Conference was not called to discuss war problems. It had as its broad objective the promotion of a better general understanding between the two professions in order that they might work together with the greatest possible effectiveness, but the stress and strain which the present conflict is exerting on both professions was obvious in the remarks of virtually every speaker and it was easy to see how the force of war is driving medicine and pharmacy closer together than they have been in the 4000 years of their existence.

The war is certain to have a profound effect upon the health professions, and on pharmacy no less than on others. The requirements of Selective Service make it necessary for each pharmacist and physician to justify his existence in the community and in the armed forces on the basis of the professional services he renders. The shortage of drugs and supplies is fast making it necessary for pharmaceutical products to justify their existence on the basis of therapeutic necessity. Research, born of necessity, is certain to flourish during this period and give to the world many new weapons with which to fight disease. Ap-

parently the war will be a medium through which medicine and pharmacy will be brought closer together. It is fortunate that pharmacy has prepared itself educationally to step into the breach and take on additional responsibilities.

The Cleveland Conference was no mere perfunctory meeting which, once held, is soon forgotten. It was probably one of the most significant meetings ever held in the history of either organization for it laid the foundation for the more effective utilization of the services and facilities of medicine and pharmacy. It did even more than that: it sounded a challenge to both professions. If the program bogs down, if the Cleveland Conference goes down in the history of the two professions as an empty effort, it will be only because medicine and pharmacy were not capable of accepting the challenge.

The problem of the proper coördination of the services and facilities of pharmacists and physicians is now squarely before both professions. The steps which are taken to solve this problem are of the greatest importance, not alone to the professions concerned, but to the public—in this emergency and thereafter.

WAR PROBLEMS

SINCE the Conference on War Problems was held at the AMERICAN INSTITUTE OF PHARMACY, in Washington, D. C., on February 20-21, 1942, to which the secretaries and other representatives of the State Pharmaceutical Associations and officials of the American Association of Colleges of Pharmacy and of the National Association of Boards of Pharmacy were invited, the problems have become even more acute than they were at that time. The creation of the War Manpower Commission, the issuance of the tin tube and quinine orders, the expected all-over price freezing orders, the changes in the Office of Civilian Defense,

the appointment of the Committee on Drugs and Medical Supplies by the National Research Council, and other recent developments are indications that pharmacy's emergency problems are becoming, as might have been expected, more numerous and more complicated.

On the other hand, the earnestness and efficiency with which pharmaceutical organizations are dealing with their problems is encouraging, and additional information concerning the profession and its services is being collected for use in developing such future programs as may be necessary to the prosecution of the war.

A. M. A. AND A. PH. A. DISCUSS MORE COMPLETE UTILIZATION OF

CLEVELAND CONFERENCE, FIRST IN THE HISTORY OF
EITHER ASSOCIATION, HERALDS A NEW ERA OF
COOPERATION BETWEEN MEDICINE AND PHARMACY

FOR the first time in their respective histories, the American Medical Association and the AMERICAN PHARMACEUTICAL ASSOCIATION met in joint conference at the Hotel Statler, Cleveland, Ohio, April 6th, to discuss their mutual problems and to set the stage for more active coöperation between pharmacists and physicians in utilizing to the fullest extent the services and facilities of both professions. Approximately 200 leaders of the two professions attended this dramatic conference, called by the A. M. A. following meetings of its Board of Trustees with a special committee of the A. PH. A.

The prime purpose of the joint conference was to give the A. PH. A. an opportunity to tell, and the A. M. A. to hear, the story of how pharmacy has "come of age" during the past quarter of a century in respect to increasing its educational standards and, thereby, the quality and quantity of the services which pharmacists are prepared to render physicians and the public. Spokesmen for the profession of pharmacy traced the development of the present educational program in pharmacy and analyzed the trends in pharmaceutical practice which indicate that pharmacists are prepared to render greater professional services than they are being called upon to perform to-day. They revealed that a very considerable portion of the pharmacist's time at present is devoted to professional duties and urged that the capacity of pharmacy to undertake additional responsibilities in public health work and in supplying the profession of medicine with increased services be utilized to the fullest extent possible.

Formal addresses were delivered before the conference by Dr. Howard Dittrick, Editor of the *Bulletin of the Cleveland Academy of Medicine* and Director of the Museum of the Cleveland Medical Library Association; Dr. E. F. Kelly, Secretary of

the AMERICAN PHARMACEUTICAL ASSOCIATION; Dr. Robert C. Wilson, Dean of the School of Pharmacy of the University of Georgia; and Dr. Morris Fishbein, Editor of the *Journal of the American Medical Association*. Their addresses were discussed by P. H. Costello, Secretary of the North Dakota Board of Pharmacy, Cooperstown, N. Dak.; Charles H. Rogers, Dean of the School of Pharmacy, University of Minnesota; Carson P. Frailey, Secretary of the American Drug Manufacturers Association, Washington, D. C.; E. Fullerton Cook, Chairman of the U. S. P. Revision Committee, Philadelphia; Wortley F. Rudd, Dean of the School of Pharmacy, Medical College of Virginia, Richmond; A. G. DuMez, Dean of the School of Pharmacy, University of Maryland, Baltimore; Robert L. Swain, Editor of *Drug Topics*, New York City; Max Lemberger, President of the American College of Apothecaries, Milwaukee; Dr. Theodore J. Klumpp, President of the Winthrop Chemical Company and former Secretary of the Council on Pharmacy and Chemistry of the A. M. A.; Dr. A. H. Bunce, of Atlanta, Ga.; Robert P. Fischelis, Chairman of the Council of the A. PH. A., and others.

Dr. Torald Sollman, Dean of the School of Medicine of Western Reserve University, presided at the afternoon session, and Dr. B. V. Christensen, Dean of the School of Pharmacy of Ohio State University and President of the AMERICAN PHARMACEUTICAL ASSOCIATION, presided at the evening session.

EVOLUTION OF THE APOTHECARY

Dr. Howard Dittrick painted the background for the discussions with a comprehensive paper on the evolution of the apothecary. He told of the common origin of medicine and pharmacy in

SERVICES PHARMACISTS CAN RENDER

the groping of primitive man to find relief for illness and pain, and traced the development of the art of healing down through the ages.

In great detail, Dr. Dittrick recalled the efforts of pharmacists and physicians to solve their mutual problems and although split apart at times by differences which arose, the two professions, joined by their devotion to the common cause of

healing the sick, have always realized their interdependence and have sought to work together in harmony.

The papers of Dr. Kelly and Dr. Wilson and a summary of Dr. Fishbein's address are published on the following pages of this issue of the JOURNAL. They merit the thoughtful consideration of all physicians and pharmacists.





TRENDS IN PHARMACEUTICAL PRACTICE

by E. F. KELLY

SECRETARY, AMERICAN PHARMACEUTICAL ASSOCIATION

PHARMACY HAS NOW PROGRESSED TO THE POINT WHERE IT IS PREPARED TO ASSUME GREATER RESPONSIBILITY IN RENDERING PUBLIC HEALTH SERVICES AND RELIEVE OTHER PROFESSIONS OF SOME OF THE DUTIES THEY ARE NOW DISCHARGING—FREEING THEM, IN TURN, FOR GREATER SERVICE TO THE PUBLIC

It is fortunate that a few years ago an outstanding group of 50 men and women representing the fields of private practice, public health, medical institutions and special interests, the

Presented before the Medical-Pharmaceutical Conference, Cleveland, Ohio, April 6, 1942.

social sciences, and the general public made a comprehensive study covering a period of five years, of the scope and character of the medical care then being received by the American people. The committee was given adequate financial support by several private foundations and it received the coöperation of many public and private agencies in its work. The study was carried on under the direction of a capable research staff and the final report of the committee under the title, *Medical Care for the American People*, has been accepted in general as an accurate and dependable survey of this field, as providing a basis for determining what groups furnish medical care in our country, and as showing what contributions each group was rendering at that time. The report clearly recognizes that medical care is rendered by physicians, dentists, pharmacists, nurses and other associated person-

nel, the latter including manufacturing and wholesale groups.

From the standpoint of cost and personnel, pharmacy ranked third in importance among the health professions. The annual expenditure for drugs and medicines was about \$715,000,000 representing 18.2 per cent of every dollar spent for health, and there were about 132,000 registered pharmacists and assistant pharmacists engaged in practice. It was pointed out in the report that the sales of drugs and medicines compared in magnitude with the total earnings of physicians or hospitals, that about 90 per cent of the drugs and medicines were furnished by pharmacies, the remainder being furnished by physicians, hospitals and other institutions; and that "less than one-third of the drugs and medicines consumed annually are used on the express order of physicians even when allowance is made for drugs utilized in physicians' offices and in hospitals."

The significance of these comments is evident. It should be noted in particular, that with respect to about two-thirds of the drugs and medicines consumed, the pharmacist was the only intermediary between the producer and the consumer. In this connection, pharmacy has rendered a valuable professional service in spite of the criticism aimed at it and could have rendered a much more effective service if it had been given greater control.

In connection with the recommendation by the committee "that pharmaceutical education place more stress on the pharmacists' responsibilities and opportunities for public service," the following important comments were made:

"Drugs and medicines and medical supplies are essential to an adequate medical service, both therapeutic and preventive. Most of them are dangerous if unwisely employed. The preparation, standardization and distribution of drugs, medicines and medical supplies should be limited, as far as possible, to pharmacists who are prepared by education and training to render this responsible service and to protect the public against abuse. Physicians and pharmacists should unite to provide the public, as economically as possible, with efficient remedies and to protect consumers from exploitation. There are enough if not more than enough colleges of pharmacy teaching undergraduate courses but there are very few giving graduate work.

"Pharmaceutical education should emphasize the pharmacist's responsibility for public health

and safety. It should have a sound background, cultural and scientific. It should be more closely correlated with education in other public health professions in order to prepare pharmacists to cooperate fully with physicians, dentists, nurses and public health agencies."

That pharmacy has an important part in medical service would seem to be clearly demonstrated if these statements and recommendations are accepted.

CHARTERS REPORT

It is also fortunate that a few years prior to the study just referred to, a study of pharmacy "from the functional standpoint" had been made by a committee under the chairmanship of Dr. W. W. Charters, then connected with the University of Pittsburgh. This study covering a period of two years was conducted by a capable staff of which Dr. Charters was the director and the study was made possible by a subvention from the Commonwealth Fund. The final report was published under the title, *Basic Material for a Pharmacy Curriculum*.

Although this study was intended primarily to determine just what the average practicing



E. F. KELLY

pharmacist does and to discover what he must know to perform these duties intelligently, the study necessarily developed information about what the practicing pharmacist does and should do in addition to his customary services and responsibilities, as indicated by the following references and quotations:

(1) "He is a man as well as a pharmacist, and as such, he has certain obligations and satisfactions in connection with his family as a husband and father, with his country as a citizen and with himself as an individual.

(2) "The development within himself of a professional morale as evidenced by his pride in his profession is an obligation of each member of the craft. Those who train students to be followers of the profession must train them to be servants of the public. The pharmacist must display reasonable efficiency in handling people and adequate proficiency in living with them, with kindness and forcefulness. Finally, he will need to have due regard for those rules of professional ethics that have stood the test of time and have demonstrated their fundamental value.

(3) "Conspicuous among the duties of the pharmacist is the group which deals with public health. These activities constitute his major function in connection with social and community life. Filling prescriptions correctly is, of course, important to the public, as is also the

display and sale of reliable products; but in the service to public health the pharmacist serves the community in a unique way. Naturally, there are many sources from which the public may secure accurate health information—the public schools, the newspapers and the publications of federal, state and private agencies. These all contribute their part to the solution of health problems; but the information they provide is general, and must be made specific in order to meet the personal needs of the one who is confronted with specific troubles of his own. To give this personal assistance the doctor is at hand. But many people are afraid of physicians and hospitals. Moreover, the physician keeps office hours which are relatively inconvenient for people who are busy with their own affairs. In addition to this, charges for consultations and treatments, even though modest, often keep the public from seeking the advice of a physician.

"The pharmacists are therefore more strategically situated than any other group of individuals to give personal advice upon matters of public health on which they are informed. The information is given free of charge and can be secured within easy walking distance of the home. The materials necessary for controlling the health problem are in stock and can be obtained promptly. Queries about health facts are casually asked by interested customers. Odds and



The Committee on the Costs of Medical Care found that less than one-third of the drugs and medicines consumed annually are used on the express order of physicians.

Photo by H. Armstrong Roberts

ends of information not easily accessible in the health literature can be gained in such conversations with a pharmacist. A well-informed pharmacist is the best single individual to disseminate information about public health."

(4) "A group of activities for which the limits have not been finally set is that dealing with the dissemination of information about non-communicable diseases. It is accepted as a general principle by both pharmacists and physicians that the pharmacist should neither diagnose nor prescribe for diseases; but in practice customers with ailments do consult the pharmacist in their normal quest for something to ease their trouble."

"The easy and summary disposition to make of this possible function of pharmacy—the dissemination of information about non-communicable diseases—is drastically to prohibit all advice upon the part of the pharmacist, and to keep him in complete ignorance of the nature of disease. A method of procedure of much greater promise, however, is to teach the pharmacist more about the nature of disease with the full expectation that when he knows more about the dangers involved, he will increasingly refuse to give advice about complex diseases. Possibly the cure for counter-prescribing is not greater ignorance but more knowledge."

(5) "The pharmacist is a source of other types of scientific information. He has learned, in school and from experience, a mass of facts about the applications of chemistry, physics and other subjects to the simple problems of the layman. He is an excellent source of information because he is conveniently in contact with his customers. The layman has easy access to him at any time. When well trained and possessed of accurate facts, he is of very great value as the disseminator of a wide range of miscellaneous scientific information."

These quotations are summarized in this word picture of the typical pharmacist:

"He is a man with interests and obligations outside of his profession; his personality and character should be of a high degree of competence. In his profession, he buys and sells a wide variety of products; he fills prescriptions and manufactures those products which it is advisable not to purchase. He assists in the control of insects, fungi and germs. He is a valuable source of information on public health and on other scientific matters. As a pharmacist, he intelligently

reads the authoritative treatises of his profession; he endeavors to understand and obey the laws of his country; and he continually labors to keep abreast of his profession."

The quotations given above from the Charters report indicate what a disinterested investigator expects the average pharmacist to be and do in providing his part of an adequate medical care for the American people.

PUBLIC HEALTH

In recent years, a number of public health officials, prominent laymen and various publications, in increasing numbers, have recognized the part which pharmacists play in public health. The following comments are taken from three recent addresses or articles:

"In the fight against major disease, the physician has one disadvantage. He sees his patients too late. . . . The man in the street thinks of the doctor too often as someone upon whom to fall back on only when all other measures have failed. The pharmacist, on the other hand, is the border patrol. He sees the enemy long before it reaches the Maginot Line of Medicine. Upon the discretion of the druggist, upon his good judgment, and upon his professional integrity rest the decisions which may mean health or illness, even life or death, in the lives of many of our citizens."

"The active and moral support of pharmacists is virtually without equal in the growing and successful onslaught again syphilis and gonorrhea."

"The practicing pharmacist is entitled to status as a member of one of the oldest professions. His calling measures up to all of the requirements of a profession. He renders a service which is recognized as vital to the welfare of the community. He has an important part in the indispensable task of maintaining the public health and in prolonging life."

With this background of pharmacy's part in medical care, of what the pharmacists should be and do, and of the estimation in which he is held by fellow practitioners and laymen, it might be worth while briefly to review how pharmacists are now educated, trained and registered, and the conditions under which they practice.

EDUCATIONAL DEVELOPMENT

All of the states of the Union with one exception, and the District of Columbia, now require graduation from an approved college of pharmacy

giving the minimum four-year course of instruction leading to the degree of Bachelor of Science in Pharmacy as a prerequisite to registration. This means that the recruits to the profession must be provided through its educational institutions. Sixty-eight schools and colleges of pharmacy were offering the minimum four-year course in 1940, of which two have since been discontinued; of the remaining sixty-six, sixty-two have been accredited by the American Council on Pharmaceutical Education and the other four institutions have made application.

In the following table is given, for the six-year period since the minimum four-year course went into effect, the number of students in these schools and colleges, the number of graduates each year, and the number of pharmacists registered in the states:

	Student Enrollment	Graduates of Pharmacy	Registered Pharmacists
1940-41	8759	1624	2300 (estimated)
1939-40	8762	1533	2387
1938-39	8569	1842	2292
1937-38	8190	1710	2277
1936-37	8424	1628	2740
1935-36	8184	1572	3096

About twenty schools and colleges of pharmacy offer graduate instruction leading to the degree of Master of Science in Pharmacy, Doctor of Science or Doctor of Philosophy.

FEWER PHARMACISTS

The state boards of pharmacy in the forty-eight states and the District of Columbia reported that in 1940 approximately 112,000 pharmacists and assistant pharmacists were on the active registers as compared to 132,000 in 1929. It is estimated that about 20 per cent of these pharmacists or approximately 22,000 are registered in more than one state. In addition, a number which can now be estimated at about 5000 keep up their registration although they have either retired from practice or have entered into some other activity.

Reports covering the census of population in April 1940 are now available from forty-one states. These indicate that there are approximately 80,000 pharmacists in active practice in this country in pharmacies, as teachers, editors, law enforcement officials, association officials, as pharmaceutical chemists and in manufacturing and wholesale establishments.

It has been estimated that on the basis of 100,000 pharmacists, the profession loses annually approximately 2600 pharmacists or 2.6 per cent through death, retirement and other causes. It should be emphasized that during the last six years an average of only 1652 pharmacists have been graduated annually which provides only about two-thirds of the estimated loss. This indicates that the profession has exercised due caution to prevent overcrowding.

The census of 1930 gave 58,258 as the number of pharmacies or drug stores in operation in the United States, or an average of one pharmacy per 2107 persons; the census of 1940 gave the number as 57,903 or an average of one per 2270 people.

These reports show that the number of pharmacies, instead of increasing in proportion to the increase in population as it has since 1880, has actually decreased over the last decade. They also indicate that probably the saturation point has been reached and that a more effective distribution of pharmacies will occur in the future.

The population census referred to above will furnish information with reference to the salary income of pharmacists and the stability of pharmacies but unfortunately this information will not be available until later. Partial studies made in recent years have indicated that the income of pharmacists compares favorably with that of the members of other health professions.

A MEASURE OF PROFICIENCY

After furnishing a statistical statement with reference to pharmacy to an official of the government some time ago, the writer was asked if the profession had set up any method of measuring the proficiency with which pharmacists discharge their duties and responsibilities. The reply to this inquiry was about as follows:

(1) That the pharmacists of the nation fill annually about 250,000,000 prescriptions at an average cost of approximately \$0.90 per prescription. The fact that this service is almost free from criticism on the part of the patients is an indication that it is well done. It should be emphasized that these prescriptions are filled to a greater or less extent in all of the pharmacies in the country and that they represent an average of 4318 prescriptions per pharmacy per year.

It is also worth mentioning in this connection that many of the statements made about pharmacies and prescriptions are not found to be cor-

rect upon careful examination. A careful study has recently been released by one of the mid-western states which has no large cities and which is largely rural in population, showing that in 1937, 455,056 prescriptions were filled in 200 pharmacies, or an average of 2275 prescriptions per pharmacy; in 1938, 519,034 prescriptions were filled in 183 pharmacies, or an average of 2836 per pharmacy; in 1941, 623,976 prescriptions were filled in 180 pharmacies, or an average of 3466 per pharmacy. In this state there were 254 pharmacies in 1937; 245 in 1938; and 236

in 1941. In other words, the number of pharmacies in this state decreased while the number of prescriptions increased. Other state and national surveys show that the number of prescriptions filled in pharmacies is increasing.

The extensive prescription ingredient survey made in 1931 showed that in the 121,924 prescriptions tabulated, the average number of ingredients were 2.11 per prescription and that of the 257,577 items prescribed, 65 per cent were recognized in the U. S. P.; 8 per cent were recognized in the N. F.; 11 per cent were unofficial items and 16 per cent were proprietary items. This is in contrast with the observation frequently made that the filling of prescriptions involves only the relabeling of packages and that most prescriptions call only for proprietary items. Only a few proprietary items were extensively used and less than 30 were ordered as many as twenty-five times in 10,000 prescriptions. Manufactured medicines ready for prompt and rapid dispensing are no doubt increasing as compared to complicated prescriptions; however, most of these items are tablets, ampuls or other dosage forms of official drugs or preparations and their dispensing requires more information and greater care on the part of the pharmacist. In addition many of the newer and more powerful drugs come within the classes of habit-forming or dangerous drugs, the dispensing or distribution of which is regulated by law.

All of this means that as dispensing becomes simpler on the one hand, it becomes more complicated on the other hand and requires the services of trained and dependable pharmacists to a greater extent than heretofore.

(2) Approximately 50,000 of the pharmacies of the country held narcotic permits in 1940 and the responsibility and the temptations involved in the distribution of narcotics are well understood. In the report of the Bureau of Narcotics for 1940, it is stated that only 34 pharmacists were reported for narcotic irregularities, of which number six were reported for narcotic addiction.

(3) The pharmacists of the country are also given the important duty of distributing medicinal poisons and habit-forming and dangerous drugs. As is well known, the list of these articles is constantly increasing and if pharmacists were even careless in the discharge of this serious responsibility they would be regular attendants in the police courts of this country whereas a surprisingly small number are even



Biologicals are but one of the groups of products which require pharmaceutical knowledge and a deep sense of responsibility on the part of the individual who dispenses them.

cited for infractions and a smaller number are convicted.

The official to whom this information was supplied expressed his satisfaction that a group of professional persons that could render these three vital public health services satisfactorily was worthy of confidence.

It is believed that what has been submitted will indicate the trends in the practice of pharmacy during the last decade and what may be expected in the near future. Substantial progress has been made and it may be briefly summarized in the following comments.

1. The education and training of pharmacists has been standardized and placed on a collegiate basis. It now has a cultural and scientific background and emphasizes the pharmacist's responsibility for public health and safety.

2. The practice of pharmacy has been increasingly limited and so far as has been possible to those educated and trained for this responsible service.

3. Pharmacies have been established in every section of the country and adequate pharmaceutical service made reasonably available to every citizen.

4. Legislation regulating the registration of pharmacists, the practice of pharmacy, the identity, purity, strength, and advertising of drugs and medicines, and the distribution of medicinal poisons and habit-forming and dangerous drugs has been greatly improved with proportionately greater protection for the people in connection with their use of these necessary articles.

5. Pharmaceutical research has been improved in quality and quantity with the result that the American people have readily available each year more effective drugs, medicines and medical supplies.

6. Pharmaceutical literature has been stimulated and improved to the extent that it compares favorably with that of any other country.

In so far as health services are concerned, pharmaceutical progress has been reasonably satisfactory, but it is true that other developments affecting the profession have been unsatisfactory and in some respects disturbing to all who are concerned in seeing that this age-old profession renders the greatest possible service in the preservation and improvement of public health.

It seems to be evident that pharmacy and the industry that coöperates with it, is prepared and strategically located to render an adequate health

service in coöperation with the other public health professions. And yet, the time of the dispensing pharmacists is far from fully occupied in rendering professional services.


It will be pointed out at once that there are too many pharmacists and too many pharmacies; no doubt this is the case in congested areas, but not in towns and rural areas. As has been reported, the number of pharmacists and pharmacies has been markedly reduced in the last decade, and probably this trend will not only continue but also will be accelerated by the present emergency. However, the reduction cannot be carried too far or else pharmaceutical service will not be reasonably available to all of the people. Because their professional services do not occupy all of their time, pharmacists have been forced to become distributors of items which others could distribute effectively and this added service, while it is creditable and convenient for the people, has not contributed to professional progress although it has assisted in making pharmaceutical service more generally available and at less cost.

It should be kept in mind that whatever criticism of medical care exists, is based largely on the high cost and the limited availability of the service, rather than on the quality of medical care. It is an ineffective answer to this criticism to point out that the American people have better medical care than any other civilized nation, if it be true that in the midst of plenty any considerable number are without adequate care.

Based on the data previously given, it appears that pharmacy is prepared both as to personnel and institutions to render a much greater health service even after such surplus in personnel and institutions as now exists is eliminated, and to render such additional service at proportionately less cost to the people.

COOPERATION NEEDED

To bring about the necessary changes requires the best thought and effort of pharmacists and, of equal importance, the earnest coöperation of the other health professions and agencies. It is not improbable that the services of the other health professions are not being employed to the best advantage or to the fullest extent and that overlapping and infringements exist. If this is true, is it not the part of wisdom for the two groups represented here to examine in frank and friendly



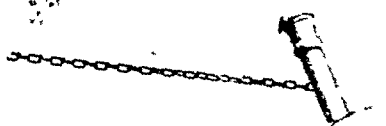
fashion how their respective services can be allocated and improved to the best advantage of these two professions and of the people whom they serve? Such a program could be initiated and promoted on a national level, but to be effective it must be carried to the state and local level. The two associations which arranged this Conference can render a great service by providing for such a program which will guide future trends and it is hoped that steps will be taken promptly to this end.

Almost every one present knows that the following subjects have been widely discussed in connection with the work of both professions; other subjects could be mentioned and still others will develop as such a program progresses.

Pharmaceutical education should be more closely correlated "with education in other public health professions in order to prepare pharmacists to cooperate fully with physicians, dentists, nurses and public health agencies," Medical education should give the physician more adequate information about drugs, medicines and medical supplies and how to order or prescribe them. Students of both groups should be brought into closer contact during their training in order to stimulate such contacts in later life. Medicine and pharmacy should cooperate in seeing that the time and services of the members of both professions are employed to the greatest possible extent in providing adequate medical care.

Medicine and pharmacy should cooperate more closely in controlling the use of drugs on prescription and for self-medication, especially of medicinal poisons and habit-forming and dangerous drugs.

Medicine and pharmacy should cooperate more closely in limiting unnecessary duplication of



Pharmacy is prepared, both as to personnel and institutions, to render a much greater health service to the public.

drugs, medicines and medical supplies and in reducing the cost of these necessary articles.

In so far as pharmacy is concerned, it can carry on and continue to make progress on the present basis but it cannot do its best until and unless it is given its full share of responsibility in providing adequate medical care. Pharmacists because of their close contacts with the people could do much more than they are now called upon to do in the public health program and it is believed that they could also relieve members of the other health professions of some duties which they are now discharging, freeing them for greater services in their particular professions, especially during the present emergency and in the armed forces. The future of pharmacy as a public health profession seems assured but it appears evident that the conditions under which it is now practiced will probably undergo further and more important changes in the future.

Experience has shown that the public health professions cannot live alone and that what affects one of them affects all of them either directly or indirectly, as well as the people. Pharmacy will welcome the closer cooperation of medicine and the other health professions in extending and perfecting its health services and in turn pledges its cooperation in any way that can be helpful in giving the American people the best possible medical service.

THE OBJECTIVES OF OUR PROGRAM OF PHARMACEUTICAL EDUCATION

by ROBERT C. WILSON

DEAN OF THE SCHOOL OF PHARMACY, UNIVERSITY OF GEORGIA

BROADER EDUCATION OF THE PHARMACIST, SUPPORT OF SOUND LEGISLATION, THE STIMULATION OF RESEARCH AND LITERATURE, ARE ALL A PART OF THE COLLEGES' CONTRIBUTION TO CONSTANT ADVANCEMENT OF PHARMACY

TO CONSIDER and interpret intelligently the present, and to plan for the future, it is imperative that we have some perspective of the

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ROBERT C. WILSON

past. Many of us can think back to the days of apprenticeship and preceptorship as a medium of instruction in pharmacy and in medicine, out of which system, in both instances, a program of broader education has evolved. Medicine, sooner than pharmacy, recognized the necessity for a scientific program of education for its practitioners and, therefore, its program is much farther advanced than that of pharmacy. But, even though pharmacy acquired a slow start, its progress during the past twenty-five years has been perhaps more rapid than was true of the first twenty-five years in the development of the program of medical education.

Whereas twenty-five years ago there were a number of schools of pharmacy over the country, the curriculum in most of these schools was limited and extended over a period usually of two years. Only in a very few states in the union was there any legal statute setting up minimum educational requirements for the licensure of pharmacists. But, at the present time, forty-seven of the forty-eight states have a prerequisite law with a minimum of four years of college work, and, in addition, one or more years of internship in a pharmacy as a requirement for licensure.

Much criticism has been directed at pharmacy because of the apparent increase in the spirit of commercialism which has seemed to dominate its practice. Such criticism perhaps is justified from a professional point of view, but this phase in the evolution of the present type drug store came about during those years when the educational requirements were negligible and it was easy to acquire a license to practice pharmacy, with the result that the number of drug stores or pharmacies rapidly increased beyond the number necessary for professional pharmaceutical service. The introduction of various items of merchandise not relevant to pharmacy seemed a necessity to provide a sufficient volume of business to enable the store to continue. But there is at this time a tendency for the pendulum to swing in the other direction toward a decrease in the number of stores and in the number of licensed pharmacists. There are many evidences of a keen de-

sire on the part of retail pharmacists in America to develop or to acquire a more definite professional spirit and practice at the expense of commercial practices as witnessed by the increase in the number of professional pharmacies.

Following the war and the changes which will come during and after it, it is apparent that there will be a sharp decrease in the number of drug stores in America, particularly in the larger urban areas where it is anticipated hospitals will arise on an ever-increasing basis, each having its own dispensary or pharmacy under the direction of a licensed pharmacist. As a further indication that the number of drug stores will decrease, the number graduating from the accredited schools of pharmacy in America is far less than the number necessary to act as replacements for those who die or otherwise pass out of practice.

PHARMACISTS GIVE GUIDANCE

The drug store of the rural or small town community has come to be a popular and important and influential institution. Through its doors each day pass a large percentage of the population of these communities, thus affording to the pharmacist an opportunity for personal contact with that large proportion of our people who are most prone to rely upon self-diagnosis and treatment and, therefore, most in need of intelligent scientific guidance in matters affecting their health and general welfare. This group constitutes an important part of our population. Based on the knowledge of the increasing tendency on the part of the public to think of the pharmacist as a scientifically trained person and that the demand for scientific information is on an ever-increasing basis, the individual pharmacists, the boards of pharmacy, and the colleges of pharmacy initiated steps leading to a broad program of education and training for those who would qualify themselves to render a broader and more intelligent service to that part of the public seeking advice and guidance. The recognition of these conditions and the desire to contribute to their solution came to be the first objective in our program of education.

PHARMACEUTICAL LEGISLATION

Recognizing its responsibilities in the health and welfare of the people of America, state and

federal pharmaceutical bodies took upon themselves the responsibility for the passage of laws which would limit the sale of those drug items, which constituted a menace to the health of the public, to those who are professionally qualified to handle them. The first narcotic laws were introduced into the state legislatures by the pharmacists of those states prior to the existence of the Federal Harrison Anti-Narcotic Act, which, in turn received the full indorsement and cooperation of organized pharmacy. In more recent years the passage of state acts regulating the sale of the barbiturates and other dangerous drugs were promoted by organized pharmacy.

The present Federal Food and Drugs Act received, early in its inception, the full and enthusiastic support of the American Association of Colleges of Pharmacy and of other organized pharmaceutical bodies. In its legislative activities in the passage of these and other laws, organized pharmacy evidenced its interest in and concern for the health and welfare of the American people. Thus, a second objective of a program of pharmaceutical education was born, and to-day, pharmaceutical jurisprudence is a part of our educational program.

The practice of self-diagnosis and self-treatment on the part of laymen is without question a menace to their health and welfare and we know of no means of solving this problem other than through a program of education to be carried on through intelligent cooperation between all of the health agencies. No one of these agencies has heretofore assumed this responsibility, except in isolated instances, and very definitely there has been no joint action. In a free America it has been considered to be an inalienable right of the individual to deal with his body as he sees fit, with the result that there are thousands of wrecks by the roadside. If the health agencies of America are to assume a proper role in the solution of this problem, results can only be achieved through a long and tedious process of education and through intelligent and unbiased coöperation. To properly and intelligently contribute its full portion of responsibility to the solution of this problem thus becomes another objective in the program of pharmaceutical education.

When the era of specialization dawned, it was recognized that pharmacy was a very definite and highly specialized field of medicine and other health agencies. We take it that there is no

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argument over the fact that specialization is based on sound, scientific principles and that it was right and proper so far as the health agencies were concerned that each should function in its specified field, but, it was definitely unscientific and illogical not to provide some medium for proper coordination and integration of the activities of the health agencies. The need for specialized fields of activity becomes more apparent from day to day as the field of scientific knowledge expands and extends. It is utterly inconceivable that medicine or any of the other health agencies can keep abreast of and familiar with the horde of therapeutic agents which have come into use in recent years on an ever-increasing basis. This is definitely within the specialized field of pharmacy and it becomes an objective of our program of education to stimulate pharmacists to qualify themselves to function intelligently and broadly in this their specialized field.

PHARMACEUTICAL RESEARCH

Scientific research constitutes one of the most potent forces in present-day civilization, and this is particularly true of research in those

Those who rely upon self-diagnosis and treatment are in need of intelligent scientific guidance in matters affecting their health

Photo by H. Armstrong Roberts

fields having to do with the health and welfare of our people. Research in therapeutic fields is not confined to the large heavily endowed foundations or to the large pharmaceutical manufacturers, but quite notable contributions have come in recent years from the schools of pharmacy in America, and to-day some program of research on an ever-increasing basis is being carried on in practically all of the accredited schools and colleges of pharmacy. It thus becomes an important objective of our program of education to promote research of a high order.

PHARMACEUTICAL LITERATURE

No specialized activity or scientific endeavor can hope to go far or achieve much without the medium of proper literature in that field. Recogn-

nizing this fact, pharmacy has made some progress as witnessed by the quality of such publications as the Scientific Edition of the *JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION*, the Practical Pharmacy Edition of the *AMERICAN PHARMACEUTICAL ASSOCIATION* and the *Journal of Pharmaceutical Education*. Pharmacy recognizes that there is a need for further expansion of its literature and it therefore becomes an objective of the program of pharmaceutical education to stimulate and encourage such development.

TO-DAY'S SYLLABUS

The undergraduate curricula in the accredited schools of pharmacy are set up on the basis of a syllabus which has been very carefully compiled by representatives from practically every phase of pharmacy and represents what their experience dictates are the needs of those entering any phase of the practice of pharmacy to render the type of service referred to. That the pharmaceutical syllabus might have been improved through the coöperation of medical and other health agency advisers is very definite, but no machinery has existed heretofore which would have made such coöperation possible. In improving our syllabus in the future, it is to be hoped that medical and health educators will make their services available to us, to the end that pharmacists may receive that training in their specialized field which can be of greatest service to the medical practitioner and other health agencies, and that, on the basis of this coöperation, students in the various schools involved may be given instruction as to the service pharmacists might, could and should render the physician and other workers in the health field.

The curriculum as now outlined provides one year of work including a study of English, social science, foreign language, mathematics and beginning biological and physical science. The basic sciences of chemistry, biology, botany, physics and bacteriology constitute the background for the strictly professional courses in pharmacy, pharmaceutical chemistry, pharmacognosy and pharmacology. The pharmacy curriculum, therefore, offers an opportunity for correlation and integration of the basic sciences, thus affording a splendid background for specialization in any one of the fields of science. As an evidence of this fact, many of our graduates have

been notably successful in the study and practice of medicine or in graduate work following an advanced degree in some field of chemistry or pharmacology or biology. It is therefore an objective of our program of education to encourage a select number of our students to continue their studies on a graduate level.

At the present time thirty-two state universities have as an integral part of the university a school or college of pharmacy and the same is true of a number of other endowed or locally supported universities. In each of these institutions the school or college of pharmacy is on a dignified and secure basis and is recognized on the campus as a genuine asset by reason of the fact that the scholastic standards in the schools of pharmacy are on a professional level and exercise an influence on the entire undergraduate program of the university. It is therefore an objective of our program of education to maintain the school of pharmacy in the university on such a basis as to command the respect and confidence of the faculty and student body of the university.

PUBLIC HEALTH

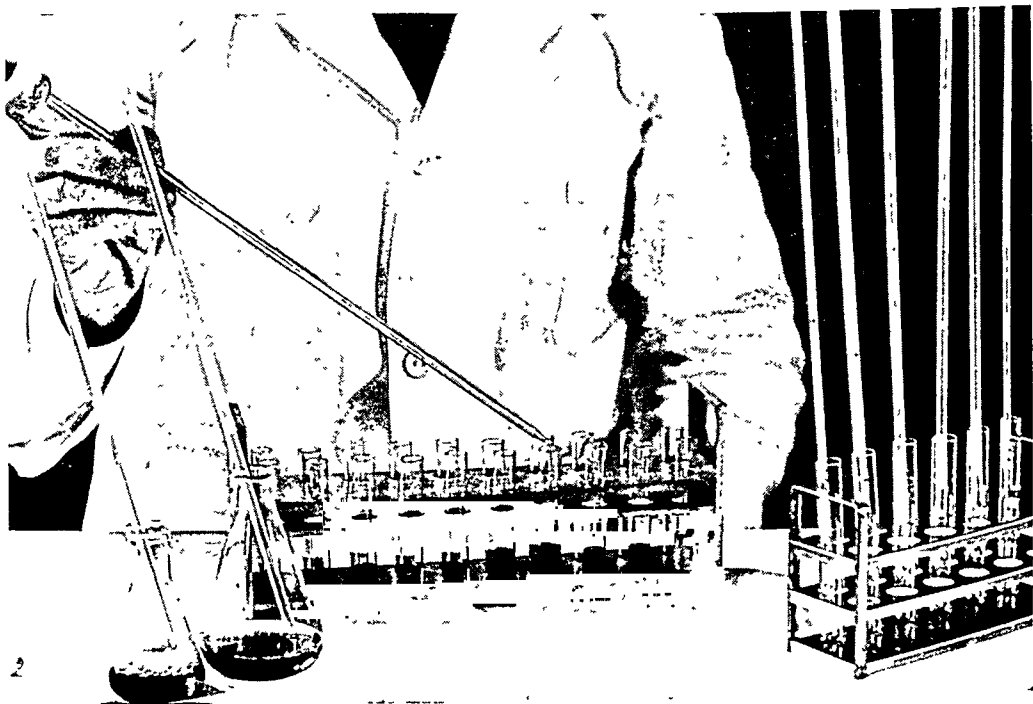
The fact that our four-year graduate has had contact with practically all of the basic sciences in addition to their integration in the specialized field of pharmacy, and, further, in view of the fact that he occupies a strategic position in the drug store of America, he becomes the one man in the community who is constantly accessible to the public for consultation and advice in scientific matters coming to the attention of the public and which excite their interest. It is therefore an objective of our program of education to qualify our graduates to render this type of service and thus begin a program of education of the public in health matters on a personal basis. We believe that through such training and by virtue of the many personal contacts the pharmacist has, he may eventually become a potent influence in popularizing the principles of public health and acquainting the public with its values, but we would much prefer that, if the pharmacist is to function in this capacity as we believe he should, there should exist between pharmacy and medicine, and other health agencies an understanding and definite coöperation in such an individual program of education for the public.

Studies are already underway to determine what the next step in pharmaceutical education should be. Whether it will take the form of at least one year of pre-pharmacy college training with four years of technical or specialized training, or whether a graduate program superimposed on the present one leading to the master's or the doctor's degree will be determined very definitely by the attitude of medicine and the other health agencies toward the program upon which pharmacy is launched, and whether the services it is prepared to render will be utilized. We take it, therefore, that the immediate present constitutes a critical period in the life of pharmacy, and since the medical program of education has extended over a period of fifty years as against our program which has extended over a period of twenty-five years, we feel that medicine should be in a position to advise us intelligently on the further development of our program, to the end that an understanding and spirit of coöperation may exist between the two professions.

As we see it in our contacts with the public, there has seemed to be through the years no co-ordination between the health professions in building a real health program for America, with the result that conditions in this respect at this time are definitely chaotic. Each group has

very definitely operated independently of the other with the natural result that charges and countercharges are rampant, all of which, it seems to us, could be clarified so far as the future is concerned, provided that we of the health professions give serious consideration to the establishment of ways and means by which the health and welfare of our people may be assured through intelligent coöperative thinking and planning on the part of all health agencies.

We refer to the present as an enlightened era, at least from a scientific point of view, but we doubt if it can be correctly so interpreted in so far as we of the health professions are concerned, if we continue our failure to coördinate our efforts and training. It becomes, therefore, our hope that out of this conference, the first time in the history of pharmacy or medicine the two professions have met in joint session for discussion of their objectives and programs, some statement of guiding principles will be evolved whereby organized pharmacy and medicine and the other health agencies may in the future more definitely correlate their programs of education and practice, so that each may in his specialized field, in coöperation one with the other, guide the people of America in all matters affecting their health and physical well being.



DR. MORRIS FISHBEIN DISCUSSES WAR PROBLEMS OF MEDICINE AND PHARMACY

HEALTH PROFESSIONS MUST STUDY THEIR ASSETS IN PERSONNEL AND PLAN FOR THEIR MOST EFFICIENT UTILIZATION. NATIONAL RESEARCH COUNCIL NAMES COMMITTEE TO STUDY ESSENTIAL DRUGS THAT ARE SCARCE. MEDICINE AND PHARMACY WARNED AGAINST PROPOSALS FOR REVOLUTIONARY CHANGES IN MEDICAL CARE WHICH MAY BE ADVANCED DURING EMERGENCY

STATING that the demand of the armed forces for physicians is far beyond anything which had been anticipated, Dr. Morris Fishbein, Editor of the *Journal of the American Medical Association*, told the A. P. H. A.-A. M. A. Conference that both medicine and pharmacy must consider the question of how economically they are using their available assets of personnel. "Our assets to meet current needs include 186,000 doctors licensed to practice, 70,000 dentists, about 15,000 veterinarians, and about 105,000 pharmacists," he said. "There are 66 Class A medical colleges graduating about 5500 doctors each year and 68 schools and colleges of pharmacy and about 1600 graduates per year. Each year we lose about 3500 physicians by death and about 1150 pharmacists. In times of peace replacements may be adequate but to meet war needs they may not be sufficient without a scientific planning for increasing and speeding up production of medical men with the associated professions, a careful scientific distribution of medical personnel, and an increase in activity of all those not directly engaged in the military effort."

Dr. Fishbein revealed that there are some 12,000 physicians in the United States Army Medical Department and it is estimated that the Army will require a total of 23,658 physicians by the end of 1942 to fill its needs. He stated that the Air Corps had recently issued a special call for 2500 physicians by July 1, with 600 additional each month thereafter until January 1, 1943, a total, for this purpose alone, of 6100 physicians. In addition, the activities of Selective Service are utilizing the services of 28,000 physicians.

He called attention to the fact that the Army has said it will need 5000 men for the perform-

ance of pharmaceutical services by the end of 1942 and he commended the AMERICAN PHARMACEUTICAL ASSOCIATION for calling the recent meeting of State Pharmaceutical Association Secretaries to discuss war problems facing the profession.

UTILIZATION OF MAN POWER

In discussing the mobilization of the country's trained personnel, Dr. Fishbein stated that in June 1940 the United States Government did not have a list of the names and addresses of the physicians of the country and the A. M. A. began at once to inventory the profession of medicine, a project which has cost many thousands of dollars thus far. "When the President approved the establishment of the Procurement and Assignment Service for Physicians, Dentists and Veterinarians on October 31, 1941, we had for the first time an agency capable of utilizing medical man power to the best advantage," said Dr. Fishbein. "Every nation has recognized the importance of conserving the health of the civilian population as well as that of the military forces. The Selective Service System recognized the necessity for deferment of men concerned with the national interest, health and welfare. The medical profession early in 1940 began assembling the data necessary to permit classification of those considered essential; the Selective Service System has recommended to its boards that they seek the advice of the special Corps Area Committees that have been established to provide the information. Thus the President placed on the medical profession itself the responsibility for meeting military needs and for determining largely the methods by which the services of the professions would be utilized.

"The occupational questionnaires now to be circulated to registrants and the discussions in the public press indicate that a similar system of scientific planning and utilization may be necessary for all the trained personnel of our nation. The winning of a war of any duration means not only the provision of munitions and machines and food but also the most efficient utilization of man power. Far too many complaints still exist of the placing of men in position to which they are poorly adapted and, worse still, failure to utilize to the utmost special knowledges acquired through years of training and experience. Perhaps an expansion of the Procurement and Assignment Service to include not only the medical, dental and veterinary professions but also the correlated pharmaceutical profession, physical therapists, laboratory specialists and roentgenologic technicians will seem desirable. By suitable collaboration of this Agency with the National Roster of Scientific and Trained Personnel we will be able not only to meet more adequately the needs of our fighting forces but also to maintain the high standards of medical and health services that have been developed in our nation.

CONTROL OF DRUGS

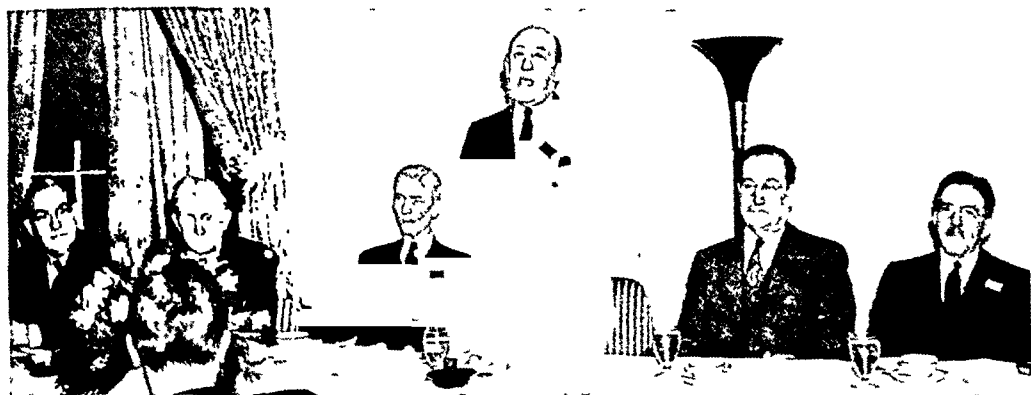
"The needs of our nation for essential drugs and medical supplies change from day to day. The announcement that the use of quinine will be limited from now on to antimalarial purposes and its incorporation in quinine and urea mixture is an indication of necessary limitations which may have to be extended. But one short year ago information was spread to the world that we had on hand enough quinine, morphine and similar drugs to maintain our nation for three years. It was stated that the gold had been removed from the treasury vaults to provide space because morphine is worth fifteen times its weight in gold. During the first nine months of 1941 over four million pounds of cinchona were imported and in 1940 almost five and a half million pounds as against two million pounds in 1939. For the first nine months of 1941 over six million ounces of quinine sulphate entered the United States. Our opium stocks are also high but new conditions and new demands make necessary more conservation. Actions already taken relating to the use of quinine, opium, alcohol, methyl alcohol and glycerin and oils and fats indicate that our leaders are aware of the importance of this problem. Nevertheless

the entrance of our troops into areas where we come into contact with such conditions as leishmaniasis, yellow fever, kala-azar, African sleeping sickness and such exotic conditions generally raise new questions for medical consideration. Who could have known three or four years ago that we would be accumulating 930,000 units of blood plasma requiring the bleeding of millions of donors to meet our medical needs?

"Recently Mr. J. S. Knowlson, Director of the Division of Industry Operation of the War Production Board, asked the Division of Medical Sciences of the National Research Council to compile a list of drugs now scarce, an estimate of scarce drugs essential to the national health, and the uses to which such drugs might be applied in order of their importance. He recognized that conditions change from day to day and certainly from month to month so that a continuing body is necessary. A similar request had come from the civilian supply division of the War Production Board. At a conference held in Washington on Friday, April 3rd, in which representatives were present from the War Production Board, the Office of Price Administration, the Office of Defense, Health and Welfare, the Office of Civilian Defense, the Federal Trade Commission, the Army and Navy Medical Departments, the Office of Scientific Research and Development, the United States Pharmacopœia, the National Formulary, the AMERICAN PHARMACEUTICAL ASSOCIATION, the American Medical Association and the American Drug Manufacturers Association a motion was adopted reading:

"That it be recommended to the Division of Medical Sciences of the National Research Council that a representative committee be established to consider and advise on problems of drug and medical supplies and on their distribution; that this committee include liaison representatives from all federal agencies now concerned with this subject; that the committee consider all problems related to the supply of essential drugs and medical supplies with a view to conservation, increased production or substitution, and with a view toward coordination and correlation of effort for efficiency in the maintenance of the public health and satisfaction of military needs.

"Subsequent to this action, Dr. Lewis H. Weed, chairman of the Division of Medical Sciences appointed the following committee,



and each federal agency has been asked to designate a liaison representative:

"DR. WALTER W. PALMER, New York, *Chairman*: Vice-Chairman, Council on Pharmacy and Chemistry, American Medical Association; Professor of Medicine, Columbia University Medical School.

"DR. PERRIN H. LONG, Baltimore: *Chairman*, Committee on Chemotherapeutic and Other Agents, Division of Medical Sciences, National Research Council; Professor of Preventive Medicine, Johns Hopkins University Medical School; Member, Committee of Revision, United States Pharmacopœia

"DR. ERNEST E. IRONS, Chicago: Formerly member, Council on Pharmacy and Chemistry, American Medical Association; Secretary, Board of Trustees, American Medical Association; Professor of Medicine, Rush Medical College

"DR. MORRIS FISHBEIN, Chicago: Editor, *The Journal of the American Medical Association*; Member, Council on Pharmacy and Chemistry, American Medical Association; Member, Board of Trustees, United States Pharmacopœia; Chairman, Committee on Information, Division of Medical Sciences, National Research Council.

"MR. J. G. SEARLE, Chicago: President, American Drug Manufacturers Association; President, G. D. Searle & Co.

"MR. GEORGE W. MERCK, Rahway, N. J.: President, Merck & Co., Inc

"DR. E. F. KELLY, Washington, D. C.: Chairman, Board of Trustees, United States Pharmacopœia; Secretary, AMERICAN PHARMACEUTICAL ASSOCIATION.

"DR. O. H. PERRY PEPPER, Philadelphia: Chairman, Committee on Medicine, Division of Medical Sciences, National Research Council, *ex-officio*.

"DR. EVARTS GRAHAM, St. Louis: Chairman, Committee on Surgery, Division of Medical Sciences, National Research Council, *ex-officio*

"The committee includes officers of the

Dr. Morris Fishbein addressing the A. M. A.-A. Ph. A. Conference. Left to right: Dr. Howard Diltrick, Editor of the Bulletin of the Cleveland Academy of Medicine; Dr. Torald Sollman, Dean of the School of Medicine, Western Reserve University; Dr. E. F. Kelly, Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION; Dr. Fishbein; Dr. B. V. Christensen, President of the AMERICAN PHARMACEUTICAL ASSOCIATION; Dr. Cary Eggleston, President of the U. S. P. Convention.

American Medical Association, the American Drug Manufacturers Association, of the AMERICAN PHARMACEUTICAL ASSOCIATION, of the United States Pharmacopœia, the National Formulary, and the chairmen of the committees on medicine, surgery and therapeutics of the Division of Medical Sciences of the National Research Council. Through special subcommittees the committee proposes to secure essential information necessary to determine advice regarding restrictions on the use of various drugs and medical materials, means of conserving such materials and for increasing production as the situation may require. For instance, we must take into account the fact that modern tooth brushes include plastic handles and bristle or nylon tufting, all restricted materials. Estimates show necessity for study relating to such products as aluminum, mercury, belladonna, iodine, agar-agar, camphor and menthol. Research will need to be encouraged for expansion of production of the sulfa drugs and other necessary substances.

AFTER THE WAR

"Already all the professions related to the promotion of health and care of the sick are giving attention to post-war planning. The changes

in trends related to the provision of medical service in foreign countries are being closely observed. To-day the United States leads the world in the fitness of its citizens and in having the lowest sickness and death rate that prevail in any country. These blessings of American life must be extended elsewhere perhaps as a means of prevention of future wars. Attention must be given to the conservation of those factors in our democracy that are largely responsible for the attainments of the present high state in the advancement of medical science that prevails

among us. Proposals for revolutionary changes associated with schemes emanating in Fascistic countries or in those with governments differing from ours should be carefully studied in relationship to the accomplishments of American medicine. Let us apply to all such proposals the same scientific criteria that we would apply in determining whether or not a new drug, a new treatment or a new surgical procedure used under controlled conditions can meet the results that prevail with present drugs, treatments or surgery."



WPB ISSUES TIN TUBE ORDER

Drastic regulations on the use of collapsible tin tubes have been issued by the War Production Board to conserve the country's supply of tin. The regulations, issued as Conservation Order M-115, may be summarized as follows:

(1) Collapsible tin tubes may not be used for foods, cosmetics, or for toilet preparations other than dental cleansing preparations and shaving preparations.

(2) Collapsible tin tubes containing 100 per cent of tin may be used only for products dispensed on prescription, ophthalmic preparations, hypodermic solutions, sulfonamide ointments, blood plasma, diagnostic extracts and pile pipes.

(3) Collapsible tubes containing not more than 7½ per cent of tin may be used for medicinal and pharmaceutical ointments not listed in (2) and preparations intended for introduction into body orifices (nasal, vaginal, rectal, surgical jelly, etc.) not included under (2).

(4) Collapsible tubes containing not more than 7½ per cent of tin may be used for dental cleansing preparations and shaving preparations.

(5) No retailer may sell or deliver a new tube of dental cleansing preparation or shaving preparation unless the purchaser delivers a used tin tube of some kind concurrently with his purchase.

(6) Retailers must hold all used tubes collected until further notice from the government.

(7) Retailers purchasing empty tin tubes for purposes listed in (2) must sign a certificate stating that he is familiar with the terms of the WPB order and will not use any of the tubes in violation of the order.

(8) Only manufacturers who used tin tubes prior to January 1, 1941, may use such tubes now.

(9) Manufacturers are asked to use large size tubes in preference to small size tubes as much as possible.

(10) Violators of the order may be prohibited from receiving further deliveries of any material subject to allocation and may be recommended for prosecution.

HOW MANY OF THIS YEAR'S NEW DRUGS WILL BE "DEAD STOCK" NEXT YEAR?

by ELMER M. PLEIN*

COLLEGE OF PHARMACY, UNIVERSITY OF WASHINGTON

**TWO-YEAR STUDY OF ONE
PHARMACY'S PRESCRIPTION
FILES SHOWS THAT HALF
OF THE INGREDIENTS USED
ONE YEAR ARE NOT EVEN
PRESCRIBED ONCE DURING
THE FOLLOWING 12 MONTHS**

THE data presented in this paper are the results of a study of the prescriptions filled over a two-year period by a drug store in a small western city. The prescriptions were filled between July 1, 1938, and July 1, 1940. During the first half of this period 1242 prescriptions were filled (1027 of these were originals and 215 were refills). The second year's prescriptions totaled 1235 of which 1022 were originals and 213 were refills. Many stores in the country will fill approximately the same number of prescriptions as this store and will undoubtedly be confronted with the same problems with respect to prescription item purchases.

The questions, "How many items are necessary to fill the average pharmacy's yearly prescriptions?" "How many new items are introduced yearly?" and "How many of these items become dead stock?" are often asked, yet but little work

has been done to answer to these questions definitely. The table at the bottom of this page is presented in an attempt to answer them.

Four hundred twenty-two drugs (205 Official and 217 proprietary and unofficial drugs) were necessary for the first year's prescription business. Forty-five different official drugs, along with 132 official drugs used the first year, were necessary for the second year's prescription business bringing the total to 177 and thus dropping 73 from use. Official drugs as a rule are not very costly so these 73 do not represent a very large investment. Only 87 of the 217 proprietary and unofficial drugs used the first year were prescribed the second year, thus dropping 130 and adding 97 new ones to the list. The prescribing tendency seems to be toward the use of new items.

Turning to the total number of drugs used, we find 422 necessary to fill the first year's prescriptions. Two hundred nineteen of these items were used the second year and 142 new ones were added to the list. Thus we find 203 items on the list which were used the first year but not prescribed once during the second year.

Some of these 203 items (73 Official and 130 proprietary and unofficial drugs) may be dead stock or they may be used at some time subsequent, but we often wonder. It behooves the pharmacist to buy cautiously of the new, detailed items.

* Department of Practical Pharmacy, College of Pharmacy, University of Washington, Seattle, Washington.

	Official	Proprietary and Unofficial	Total
No. of drugs used first year	205	217	422
No. of drugs used second year	177	184	361
No. of drugs used both first and second years	132	87	219
No. of drugs used first year only	73	130	203
No. of drugs used second year only	45	97	142



DEFENSE SAVINGS STAFF

TREASURY DEPARTMENT

WASHINGTON

TO THE RETAIL DRUGGISTS OF AMERICA:

Never in any national emergency has the retail druggist been found wanting. In the present war emergency, it has been inspiring to see how eager and willing every druggist has been to help his government.

That is one reason why the Treasury Department has selected the drug trade to conduct the first concentrated 30-day sales drive on War Stamps beginning May 1st. We frankly hope that in this all-important promotion you and your industry will establish an outstanding record of War Stamp sales and become a model for similar drives in other industries during the months to come.

To coordinate this great undertaking, the Treasury Department has set up a Drug Industry Council which will serve as a government branch of the Retail Advisory Committee in the sale of War Savings Stamps. Needless to say, we have been very happy with the wholehearted cooperation received from the committees representing the Independent Druggists, Chain Drug Stores, Wholesale Druggists, Manufacturers and the Advertising Committee.

The success or failure of this important retail concentration drive will depend on you, and every other retail druggist. We are enclosing the material needed for the drive. We urge you to read the instructions carefully and to use the coin card for your customers - to place the display card in a prominent position - and identify your store with the special window streamer. Please sign the pledge card and give it to your wholesaler salesman, or mail it yourself.

Here is a chance for you to make an important war contribution. We know that you will not fail us.

Very sincerely,

F. E. Pulte, Jr.
F. E. Pulte, Jr.

Chief, Retail Stores Division

FOR DEFENSE





Druggists of America

SPONSOR

MAY STAMP DRIVE

FOR VICTORY!

BUY A WAR STAMP HERE *TODAY!*

★ SPONSORED BY THE NATIONAL ASSOCIATIONS OF RETAIL DRUGGISTS; CHAIN DRUG STORES; WHOLESALE DRUGGISTS, AND DRUG AND COSMETIC MFRS. ★

PHARMACISTS STAGE DEFENSE STAMP SELLING DRIVE

EVERY PHARMACIST IN THE COUNTRY EXPECTED TO ANSWER APPEAL OF THE GOVERNMENT TO THROW FULL SUPPORT BEHIND MAY CAMPAIGN

RETAIL pharmacists of the nation will stage an "all-out" selling drive on Defense Stamps during the month of May under the leadership of the Drug Industry Council of the Retail Advisory Committee of the Treasury Department. John W. McPherrin, Editor of *American Druggist*, is general chairman of the Council and he is being assisted by representatives of all branches of the drug industry.

Special display and promotional material have been prepared for the drive and sent under Treasury Department frank to every pharmacist in the country. Pharmacists are asked to make window and counter displays as part of the drive and to encourage the public to take change in Defense Stamps. One of the most interesting units in the promotional material designed for the drive is a small card which holds a twenty-five-cent piece and bears the statement, "This Quarter Will Buy 12 Bullets." Pharmacists are urged to place quarters in these cards and give one to customers as part of their change. It is felt that this unique appeal will lead many cus-

tomers to hand the card and quarter back to the pharmacist to purchase a Stamp.

The goal of the drive is to have every pharmacist, clerk and salesperson in every retail pharmacy in the country sell at least two dollars worth of Defense Stamps per day every day in the month of May. There is no better cause to which pharmacists might lend their efforts than to aid their government in raising money to buy the materials necessary to win this war. Designation of pharmacists by the Treasury Department as the group to put over this selling drive is a real tribute and should serve to make every member of the profession outdo himself to make the campaign fully effective.

HOW TO STOCK DEFENSE STAMPS

In an effort to aid retailers in making their stocks of defense stamps fit the relative demands of customers for different denominations, the U. S. Treasury Department has made a study of sales through retail stores and made the following suggested inventories:

LARGE STORE

60 per cent in 25 cent stamps
30 per cent in 10 cent stamps
5 per cent in 50 cent stamps
4 per cent in \$1 stamps
1 per cent in \$5 stamps

SMALL STORE

75 per cent in 25 cent stamps
23 per cent in 10 cent stamps
2 per cent in 50 cent stamps

RESTRICTIONS ON USE OF QUININE

DRUG MAY BE USED ONLY AS ANTI-MALARIAL AGENT OR IN U. S. P. QUININE AND UREA HYDROCHLORIDE, PRESENT STOCKS, IF LESS THAN 50 OUNCES, EXEMPT FROM ORDER

IN ORDER to build a stockpile for military needs, the War Production Board issued an order on April 4th establishing control over the supply and distribution of quinine. The order (Conservation Order M-131) affects all pharmaceutical and medicinal chemical companies, botanical supply houses, wholesale drug and supply houses, retail drug stores and all other persons who deal in quinine.

The terms of the order permit sale and delivery of quinine only for use as an anti-malarial agent or an ingredient of quinine and urea hydrochloride.

This restriction does not apply to any stock of quinine in combination with any other medicinal ingredient, nor does it apply to any stock of quinine consisting of less than fifty ounces which the pharmacist had on hand on the date of the order.

Persons owning or having control of fifty pounds of cinchona bark or fifty ounces of quinine must report such stocks to the War Production Board on form PD-401.

Ninety-five per cent of cinchona bark from which quinine is derived comes from Java in the Dutch East Indies. The Federal Government has built a substantial stockpile, and, in addition, there is available a large supply in the hands of manufacturers and distributors.

The estimated military requirements for the balance of this year will exceed the production expected to be obtained from South American sources of cinchona bark. These sources, however, are being exploited as far as possible and at least fair amounts are expected to be received from South America this year.

Stockpiling existing supplies of quinine is necessary since sharply higher military needs will have to be met out of stocks now in this country plus the limited amounts which expanded South American production can provide.

In addition, the civilian requirements for the prevention and cure of malaria take large amounts each year, and smaller amounts are to be made available for Lend-Lease purposes.

For the last six years, projects for the cultivation of the cinchona tree have been carried on in several South American countries. Plans have been completed to expand the annual capacity of producers who are already processing quinine in those countries.

The complete text of the Quinine Order is as follows:

TITLE 32—NATIONAL DEFENSE
CHAPTER IX—WAR PRODUCTION BOARD
Subchapter B—DIVISION OF INDUSTRY OPERATIONS
PART 1184—QUININE
CONSERVATION ORDER NO. M-131

The fulfillment of requirements for the defense of the United States has created a shortage in the supply of Quinine for defense, for private account and for export; and the following Order is deemed necessary and appropriate in the public interest and to promote the national defense.

Section 1184.1—CONSERVATION ORDER NO. M-131

(a) *Definitions.* For the purposes of this Order:

- (1) "Quinine" means Quinine Alkaloid and its derivative Quinine Salts extracted from Cinchona Bark (*Cinchona Succirubra* P. et K; *C. Calisaya* W.; *C. Ledgeriana* M. et T.), also known as Calisaya, Peruvian or Jesuit's Bark, and from its hybrids.
- (2) "Anti-Malarial Agent" means any product or material which, according to modern medical opinion, is recognized as a specific for the prevention, alleviation or cure of malarial infections.

(b) *Restrictions on the Purchase, Sale and Use of Quinine:*

- (1) No person shall sell, transfer or deliver, or purchase or accept any transfer or

delivery of, any Quinine except for use as

- (i) an Anti-Malarial Agent, or
- (ii) an ingredient of quinine and urea hydrochloride (U. S. P.) for hypodermic use.

- (2) Except in the case of a sale, transfer or delivery to an ultimate consumer, no person shall sell, transfer or deliver any Quinine except upon receipt of a certificate manually signed by the person purchasing or accepting transfer or delivery, or a duly authorized official, in substantially the following form:

"I hereby certify that the Quinine ordered hereby is for use as (1) an Anti-Malarial Agent or (2) an ingredient of quinine and urea hydrochloride (U. S. P.) for hypodermic use, and will not be sold, transferred or delivered by me for any other purpose. This certification is made in accordance with the terms of General Preference Order No. M-131 with which I am familiar.

Name _____
By _____"

Such statement shall constitute a representation to the War Production Board and the seller or supplier of the facts state therein. The seller or supplier shall be entitled to rely on such representation unless he knows or has reason to believe it to be false. Any person making such certification shall use such Quinine only for the purposes permitted by this Order.

(c) *Applicability of Order.* Any stock of Quinine (whether in the form of solution, pill, tablet or capsule, but not including preparations containing Quinine which has been combined or compounded with other medicinal agents) consisting of less than fifty (50) ounces physically located at any one place on the date of this Order shall not be subject to the provisions and restrictions of this Order; and such stocks may be disposed of by the owner thereof without restriction. This Order shall not apply to purchases by importers of Quinine to be delivered from outside the continental United States, provided that any subsequent dealing in Quinine after its importation is governed by this Order; nor shall this Order apply to the purchase, sale or use of any preparation containing Quinine which, on the date of this Order, has been combined or compounded with other medicinal agents.

(d) *Reports.* Every person having in his possession or control on the date of this Order (1) any

stock of Quinine consisting of more than fifty (50) ounces (whether in the form of solution, pill, tablet or capsule, but not including preparations containing Quinine which has been combined or compounded with other medicinal agents) which stock is physically located at any one place, or (2) over fifty (50) pounds of Cinchona Bark shall make a report on Form PD-401 which shall be filed with the War Production Board. Failure on the part of any person to file said report as prescribed by this Order shall be deemed a representation to the War Production Board that such person had no stocks of Quinine consisting of more than fifty (50) ounces physically located at any one place and less than fifty (50) pounds of Cinchona Bark in his possession or control on the date of this Order. All persons affected by this Order shall file such other reports as may be required from time to time by the War Production Board.

(e) *Applicability of Priorities Regulation No. 1.* This Order and all transactions affected hereby are subject to the provisions of Priorities Regulation No. 1 (Part 944), as amended from time to time, except to the extent that any provision hereof may be inconsistent therewith, in which case the provisions of this Order shall govern.

(f) *Appeals.* Any person affected by this Order who considers that compliance herewith would work an exceptional and unreasonable hardship upon him may appeal to the War Production Board, setting forth pertinent facts and the reasons such person considers that he is entitled to relief. The Director of Industry Operations may thereupon take such action as he deems appropriate.

(g) *Communications to War Production Board.* All reports required to be filed hereunder, and all communications concerning this Order, shall, unless otherwise directed, be addressed to:

"War Production Board
Health Supplies Branch
Washington, D. C. Ref: M-131"

(h) *Violations.* Violation of this Order is a criminal offense. In addition, any person who wilfully violates any provision of this Order, or who by any act or omission falsifies records to be kept or information to be furnished pursuant to this Order may be prohibited from receiving further deliveries of any Material subject to allocation, and such further action may be taken as is deemed appropriate, including a recommendation for prosecution under Section 35 (A) of the Criminal Code (18 U. S. C. 80).

(i) *Effective Date.* This Order shall take effect immediately.

Issued this 4th day of April, 1942.

J. S. KNOWLSON
Director of Industry Operations

NEW WEAPONS AGAINST

Gas Gangrene

SPECTER OF THE BATTLEFIELD
YIELDS TO CHEMOTHERAPY;
DANGER OF DIRT INFECTIONS
IN WAR WOUNDS LESSENED

by RICHARD A. DENO, Ph.D.

ASSOCIATE PROFESSOR OF BIOLOGICAL SCIENCES, RUTGERS UNIVERSITY COLLEGE OF PHARMACY

IN THE January 1942 number of *War Medicine* two Canadian scientists, Doctor G. B. Reed and Doctor J. H. Orr, outline a series of interesting and important experiments which demonstrate the relative effectiveness of a number of chemotherapeutic agents in preventing and relieving the symptoms of gas gangrene, a germ disease which they produced experimentally in guinea pigs. Four germs were used to produce the infections, and the antiseptic value of seven sulfonamides as well as that of zinc peroxide and gas gangrene antitoxin was tested.

GAS GANGRENE GERMS

We must go back sixty-five years to the work of Pasteur to learn of the early experimental studies on one of the germs used by the Canadian scientists, Pasteur's "Vibron septique," now called *Clostridium septicum*. This justly famous germ was isolated by Pasteur from the blood of a cow during his investigations on anthrax. When he injected the germs into guinea pigs they died not from anthrax but from a very different infection. Autopsy of the guinea pigs showed reddened muscles with pockets of gas in them. From these animals Pasteur isolated a new germ which he found grew well only in an atmosphere lacking oxygen. Thus the concept of germs toward which oxygen acted as a poison was born, and Pasteur's germ was the first disease-producing one to be cultivated in the absence of oxygen, that is, anaerobically.

A few years later the famous German bacteri-

ologist, Robert Koch, discovered in decomposing flesh what is now believed to have been the same germ, and found that he could produce a spreading congestion in guinea pigs by injecting cultures of the germ.

Still later, an American bacteriologist, Doctor Welch, and his colleagues found a different germ which also grew best without oxygen. Their discovery came from a cadaver, and was eventually given the scientific name *Clostridium welchii* in honor of the discoverer. Since then, it has been learned that this one has a very wide distribution in nature, can produce the gaseous destruction of muscle characteristic of Pasteur's germ, and is responsible for gas gangrene in man more frequently than any of the others.

Another American bacteriologist, Novy, discovered a third anaerobe, and has been honored also by having it named after him—*Clostridium novyi*. Doctor Novy found his germ in the body of a guinea pig ill with a gas-producing infection. Slight attention was paid to his discovery until the time of the first World War when Novy's germ was found to be involved in many cases of gas gangrene following war wounds.

A fourth *Clostridium* was discovered in Argentina by Sordelli in 1922. This germ, *Clostridium sordelli*, he isolated from an infected appendix and a second time from an infected compound fracture. During the past twenty years Sordelli's anaerobe has been noted in France, New York, Colorado and Nevada, so it probably has a wide distribution, although generally regarded as rarer than the other three. Like the others it

produces a spreading congestion and inflammation in the muscles and beneath the skin accompanied by the formation of gas pockets.

These four germs are by no means the only ones which are able to cause gas gangrene or which require absence of oxygen to grow, but they are the agents responsible for the majority of cases of the disease and are the ones reported on by Doctors Reed and Orr.

The genus name *Clostridium* was agreed upon several years ago for all anaerobic rod-shaped germs and is now widely used. There are three groups within the genus: (1) Those which are harmless but which may be found growing with the others in cases of disease. (2) Those which produce a nerve poison which is very potent, frequently causing death. Included here are the germs which cause lockjaw and botulism, a very serious food poisoning. (3) The group we are considering here—the causative agents in gas gangrene.

FORM RESISTANT SPORES

Not only do the germs in these three groups all grow best without oxygen, but they form resistant spores, and have somewhat similar staining characteristics. Most of them can move about in the medium in which they are growing and many are widespread in their distribution in nature. They are found in manure, soil, dust, milk, food, on clothing, and may exist in the spore state in almost any common place. Since so many of them are harmful to man, how is it that the diseases they produce are relatively rare when so many of us are harboring the germs? The answer is that mere existence in the spore state, and active growth in the body are two different things. To grow and produce their potent toxins they must find an oxygen-free environment. They will not develop on the skin or in shallow wounds exposed to the air. But let them become buried deep within the muscles, especially if these have been mangled, and the anaerobic conditions furthered by decaying flesh and fluids provide an ideal environment for multiplication of the germs.

NATURE OF GAS GANGRENE

An untreated compound fracture, a battle wound, tearing of the muscles in the hip region where contamination from feces is easy, an unclean hypodermic injection—any of these may provide for admission of gas gangrene germs into deeply

placed parts of the body. Usually such injuries carry dirt into the muscles, dirt which may be loaded with spores that will germinate if anaerobic conditions exist. This is followed by multiplication of the germs and secretion of their toxins. These spread throughout the muscle, discoloring it and producing a congestion due to accumulation of fluid. Gas produced by the anaerobes forms pockets and there is frequently a putrefactive odor. Tissues other than muscle may be involved. In severe cases these local changes are accompanied by anemia and weakened heart action ending in collapse and death. The germs usually do not invade the blood stream. There are all degrees of severity in cases of gas gangrene—from restricted local abscesses without toxic symptoms and with an uneventful recovery to extremely active infections, spreading within a few hours after the injury and causing death within a day.

WORLD WAR EXPERIENCE

During the early part of the first World War gas gangrene was shockingly common among wounded soldiers of all forces. One British soldier out of ten injured in battle developed the disease during the early months of the war, according to Stokes. *Clostridium welchii* was found in 85 per cent of the cases, and many were due to a mixed infection. Wide distribution of the germs in the well-manured soil of France and inadequate knowledge concerning proper treatment were responsible for the high rate of infection. Military surgeons soon learned the importance of removing all torn, dirty and dead tissues from wounds, and by the end of the war the incidence had fallen to less than one per cent.

VALUE OF SULFONAMIDES

The carefully conducted experiments of Doctors Reed and Orr as well as those of British scientists and others have established the value of first-aid treatment with sulfonamides, as well as subsequent treatment under the supervision of a physician. Clinical studies have borne out the conclusions reached by experimental methods, and in the *British Medical Journal* Hawking writes that in Britain all persons wounded in air raids or street accidents are being treated with 5 Gm. of sulfathiazole placed deeply within the wound.

The procedure followed by the Canadian investigators was to produce experimental gas gangrene in guinea pigs by cutting the shaved thigh of the animal under anesthesia. The cut was made deep into the muscles and a piece of muscle was removed entirely and then replaced at the bottom of the wound. One-tenth gram of sterile garden soil was introduced followed by 0.05 cc. of a dilution of an eighteen-hour culture of the germ to be studied. They then sewed up the wound firmly with one row of sutures in the muscle and a second row in the skin. In some cases a mixed culture of two or more germs was used as the infecting agent. This procedure invariably produced gas gangrene in the guinea pigs.

To determine the effectiveness of the chemotherapeutic agents, at the time when the germs were put in the wound 0.15 Gm. of sulfanilamide or some other drug was introduced. In certain experiments the scientists gave the drug by mouth instead of implanting it within the wound. A further modification consisted of allowing the germs to grow uninhibited within the muscle for two hours, or three, or six hours, then the wound was opened, the chemical introduced, and the sutures again made in the muscle and skin. The length of time during which the guinea pigs survived was then noted as well as the nature of the disease in those that died or the disappearance of the infections in those that lived.

Over a thousand animals were used in the tests and various modifications of procedure were made in order to test thoroughly the effects of the various drugs on each type of infection. In some cases both oral and local use was made of the sulfonamides. In others the dosage was varied. In another paper the authors report on the effectiveness of 0.2 Gm. of zinc peroxide made into a paste with saline solution and packed into the wound. In a third article they give the results of combining chemotherapy with enclosure of the injured leg in a plaster bandage which rendered movement of the infected parts impossible.

RESULTS OF THE TESTS

Of the four germs studied infections caused by *Clostridium welchii* responded most favorably to chemotherapy. This is fortunate since the vast majority of all cases of gas gangrene are due to this germ, or are mixed infections in which it is involved. *Clostridium septicum* and Novy's germ were somewhat more resistant, while *Clostridium sordelli* proved to be the most difficult one to kill. Again this is fortunate because the most resistant of the four is probably the least common.

Seven sulfonamides were tested and sulfathiazole was found to be the most effective. Sulfadiazine came second followed by sulfamethylthiazole and sulfapyridine. Sulfanilylguanidine and sulfacetamide were less effective, and the least effective was sulfanilamide. But even with sulfanilamide one-third of the infected guinea pigs recovered whereas all of the untreated ones died. With sulfathiazole 79 per cent of the test animals recovered when the drug was introduced into the wound. Zinc peroxide proved to be highly effective and in those wounds in which the gas gangrene infection was established before treatment was started, zinc peroxide was only slightly less effective than sulfathiazole.

The use of plaster bandages to prevent movement of the infected leg proved to be disappointing. Immobilization alone had slight influence on the course of the infection, and when combined with chemotherapy about 40 per cent of the infected animals recovered. Chemotherapy alone was much more effective.

These experiments and those of other workers have shed much light on prophylactic measures designed to prevent gas gangrene—both first-aid and surgical treatment. Among the various workers there is disagreement of a minor nature on the relative effectiveness of various sulfonamides, but all are agreed that the early use of a chemotherapeutic drug locally decreases tremendously the danger of infection. Thus another specter of the battlefield fades before the magic of modern chemotherapy.

18 21



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National Conference of Pharmaceutical Research	H. W. Youngken	J. C. Krantz, Jr., Baltimore, Md	Denver, Colo.	August '42
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Practical Pharmacy Edition

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ENFORCING WAR ORDERS

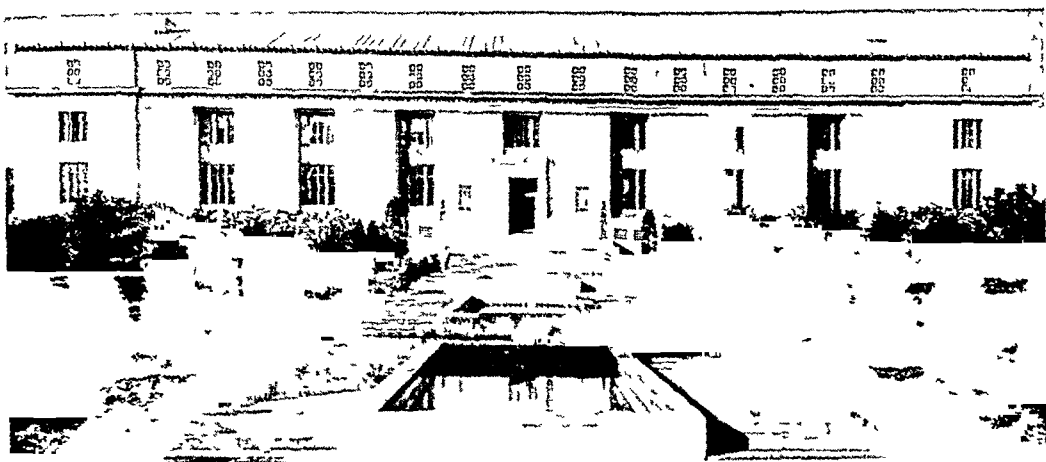
IT MUST be apparent to every pharmacist that it would be a physical impossibility for the Government to enforce its "war orders" issued by WPB, OPA and other agencies to the extent of compelling complete compliance. A number of prosecutions can, and undoubtedly will, be brought to curb flagrant violators and to serve as warnings to others, but the task of maintaining adequate checks to see that quinine is sold only for antimalarial purposes, to make sure a used tin tube is received for each tube of toothpaste or shaving cream that is sold, or to see that price ceilings are observed would be too tremendous even to be contemplated.

This does not mean, however, that the restrictive orders emanating from Washington will be ignored by pharmacists. On the contrary, the evidence thus far indicates that members of this profession are ready and willing to go even further than the actual language of the orders demands. Although the quinine order exempts stocks of less than fifty ounces which individuals had on hand on the effective date, pharmacists generally are observing the obvious *intent* of the order, namely, to conserve quinine, and they are refusing to dispense their present stocks of this drug except for antimalarial purposes. Some pharmacists have volunteered to return unopened packages of quinine to their wholesalers. Such actions demonstrate a sincere sense of responsibility on the part of the individuals concerned and a real understanding of the critical problems being faced by this country. It is reported that a shortage of quinine lost The Battle of Bataan and it is within the

realm of possibility that before this war is over it may be necessary to commandeer stocks of this drug from the prescription rooms of retail pharmacists above the Mason and Dixon line who need little of it for antimalarial purposes. Every ounce of quinine which is wasted to-day may cost the lives of fighting men to-morrow. Foresighted pharmacists, voluntarily conserving their stocks of this drug to an extent greater than they were ordered by WPB, may eventually contribute more to victory than even they themselves realize to-day.

In contrast to such pharmacists there are others who perhaps haven't taken the time to think these matters through and realize how helpful they can be to the war effort if they will worry less about the actual language of war orders and govern themselves, instead, by their intent. No one claims that the orders being issued by Governmental agencies are flawless; no one who knows the tremendous pressure under which these agencies are operating expects them to be perfect. Their intent is clear, however, even though their phraseology sometimes may be a bit confusing.

There will always be those who revel in picking flaws and who will be able to think up unusual instances in which the application of a price order or a restriction on the use of a drug would be a bit puzzling. A misplaced comma or an omitted word in the official text of a regulation is their signal to ask a score of questions concerning interpretation. Most of their questions can be answered in either of two ways under the wording of the order, depending upon whether the individual is seeking to conform



Headquarters of the National Research Council and the National Academy of Sciences, in Washington, D. C.

SCIENCE MOBILIZED FOR WAR

HOW THE NATIONAL RESEARCH COUNCIL IS FUNCTIONING TO PROVIDE SCIENTIFIC GUIDANCE TO THE ARMY, NAVY AND OTHER GOVERNMENT AGENCIES IN BOTH THE PREVENTION AND TREATMENT OF DISEASE; AND HOW PHARMACISTS CAN PLACE ITS RECOMMENDATIONS BEFORE THEIR COMMUNITY PHYSICIANS

ABRAHAM Lincoln could hardly have foreseen the methods of modern warfare which are being used in the present hostilities, but his action in establishing the National Academy of Sciences in 1863 to advise the Government on the instrumentalities of war has given this country an effective organization of the Nation's scientists which has never been needed more than it is to-day. The close of the War between the States did not end the need of the Government for the scientific advice and counsel of its scientists however, and the Academy continued as a permanent organization of quasi-governmental status.

Again in 1916, when the United States was faced with probable involvement in World War I the Academy was pressed into military advisory service by President Wilson. The Academy

created a central committee, which it called the National Research Council, and served the Government as the Department of Science and Research of the Council of National Defense, the Science and Research Division of the Signal Corps of the Army, and in a cooperative relationship with other agencies concerned with military and naval problems. At the end of the war President Wilson issued an Executive Order requesting the Academy to perpetuate the National Research Council to promote scientific research and continue to make available to the Government the latest information on subjects pertaining to national defense and public welfare.

Now, once again, the Nation has called upon the National Academy of Science and the National Research Council to mobilize the scientific personnel and facilities of the country for war service. To-day it is engaged in an important task of such proportion that no single institution, society, profession or governmental agency could undertake it. Only by pooling the brains of scientists in all fields and the research facilities of all types of institutions could the challenge be met.

NINE DIVISIONS

The National Research Council is composed of nine major divisions, of which the Division of Medical Sciences is one. This Division, now has ten committees on problems of military medicine, in addition to continuing committees on more general medical problems, and numerous sub-

committees made up of authorities in their particular fields. These groups study problems and make recommendations to the Army, Navy, Public Health Service Office of Civilian Defense and other governmental agencies and departments. The chart accompanying this article indicates the comprehensive character of this work.

All governmental agencies concerned with the medical sciences have liaison representatives on the various committees and through them the problems are presented. The committees are purely advisory to the governmental agencies in such problems.

Among the problems on which the National Research Council has aided the Government during the past year are the mobilization of medical personnel for the armed forces, the establishment of standards for the physical examination of selectees, the preparation of medical manuals for the Army and Navy and the collection of blood plasma. Committees are now engaged in studies of aviation medicine, tropical diseases, the treatment of burns, the treatment of shock, the control of venereal diseases, the prevention of epidemics of infectious diseases, and Army nutrition.

RESEARCH STUDIES

In addition to advice on scientific matters, however, the Government needs an executive or operating group with financial backing to sponsor research studies necessary to the solution of problems of warfare and defense, and two years ago the National Defense Research Committee (NDRC) was formed by the Council of National Defense to perform this function. This committee is a governmental agency as contrasted with the National Research Council which is an independent organization. The National Defense Research Committee has sponsored several hundred research projects in university and industrial laboratories.

A year ago President Roosevelt established a new, over-all agency known as the Office of Scientific Research and Development (OSRD), to coordinate all defense research. This agency has two major divisions, one of which is the National Defense Research Committee, which continued to function as before, and a second division consisting of a Committee on Medical Research. This latter division works primarily with the Division of Medical Sciences of the National Re-

search Council in conducting medical defense research.

STUDY OF DRUGS

The newest study to be undertaken by the National Research Council, and one of interest to all pharmacists, is that of the supply of drugs and medical supplies. The study was requested by J. S. Knowlson, Director of Industry Operations of the War Production Board, and a special Committee on Drugs and Medical Supplies of the Division of Medical Sciences has been set up to assume this responsibility.

The committee is headed by Dr. Walter W. Palmer, of New York, Professor of Medicine at Columbia University, and is composed of nine authorities on medicine and pharmacy, including Dr. E. F. Kelly, Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION.

The problem of supplying drugs and medicines to the armed forces, to the other United Nations, and, at the same time, allocating sufficient supplies for civilian health needs is both complicated and extremely important. Several agencies of the government are concerned with certain aspects of the problem and some coordinating agency has been sorely needed to pool information and thus enable each governmental unit to perform its duties efficiently. The committee meets with liaison representatives of the government agencies and will serve them in an advisory capacity.

The committee is now engaged in a study of those essential drugs on which shortages have developed. The objective is to recommend, in the case of each drug, whether the shortage can best be remedied by increased production, replacement with other drugs of similar therapeutic action, or by restriction of the use of the drug as has been done in the case of quinine.

RECOMMENDATIONS ON BURNS

Although the studies undertaken by the various committees of the Division of Medical Sciences of the National Research Council are primarily for the guidance of governmental agencies, much of the work can be used to good advantage in the civilian practice of medicine and pharmacy. For example, a committee has been studying the treatment of burns and a report of its work recommending the use of tannic acid and sulfadiazine

DR. EUGENE G. EBERLE DIES

Eugene Gustave Eberle, Editor Emeritus of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, died May 2, at Washington, D. C., at the age of 78 years.

Dr. Eberle was born at Watertown, Wis., June 3, 1863. He studied pharmacy at the Philadelphia College of Pharmacy and Science, graduating in 1884. He returned to Wisconsin to practice pharmacy and later moved to Texas, where he continued in practice and later helped found the Texas Drug Company, wholesale druggists and manufacturing pharmacists. He was one of the organizers of the School of Medicine and Pharmacy at Dallas in 1910 which became part of Baylor University in 1903. Dr. Eberle served as Professor of Pharmacy at the school from 1900 to 1915 and as Dean of the College of Pharmacy from 1903 to 1915. He received the degree of M.A. from Baylor University in 1910 and the honorary degree of Ph.M. from the Philadelphia College of Pharmacy and Science in 1915. He founded the *Southern Pharmaceutical Journal* in 1908 and served as its Editor until 1915.

In 1915, Dr. Eberle accepted the Editorship of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, a position which he filled with distinction until his retirement in 1938. Few, if any, have served the profession and the ASSOCIATION with greater devotion.

Dr. Eberle was President of the Texas Pharmaceutical Association for two terms, from 1901-1903, and was Secretary of the Association from 1909-1914. He joined the AMERICAN PHARMACEUTICAL ASSOCIATION in 1896 and became a Life Member in 1921. He was active in many of the Sections of the ASSOCIATION, giving particular attention to the Historical Section. He was elected Second Vice-President of the A. PH. A. in 1902, First Vice-President in 1908 and President in 1910.

In 1932 Dr. Eberle was awarded the Remington Honor Medal for his contributions to the profession of pharmacy. He was a member of the Committee of Revision of the United States Pharmacopoeia 1910-1920. He served as a member of the Syllabus Committee from 1911-1934.

Dr. Eberle was a member of the American Chemical Society, the American Association for the Advancement of Science, the American Medical Editors Association, the Franklin Institute, the Texas Historical Society, the Mississippi Valley Historical Society, the Wisconsin Historical Society, the Society for the History of Pharmacy (International) and the Society for the History of Pharmacy (France).

Although Dr. Eberle retired as Editor of the JOURNAL in 1938, he retained his office at the AMERICAN INSTITUTE OF PHARMACY as Historian and Curator of the Museum and continued to carry on such ASSOCIATION duties as his strength would permit, including the Chairmanship of the Fairchild Scholarship Committee. He had attended the meetings of the A. PH. A. continuously for forty years and was present at the Eighty-Ninth Annual Meeting in Detroit last August.

He was an Episcopalian and a 33rd degree Mason.

Dr. Eberle is survived by his widow, Mrs. Lillian Hancock Eberle.

Funeral services were held at Washington, D. C., May 4th. Interment was at Watertown, Wis., on May 5th. Rev. Harry Pallet, of the Episcopal Church of Watertown, officiated and the following served as pallbearers: Dr. W. O. Richtmann, Professor of Pharmacognosy, College of Pharmacy, University of Wisconsin; Dr. Arthur H. Uhl; Director of the College of Pharmacy, University of Wisconsin; Emil Hayden, Manager of the Madison Wholesale Drug Co.; Max Lemberger, President of the American College of Apothecaries; Sylvester H. Dretzka, Secretary of the Wisconsin State Board of Pharmacy; and Jennings Murphy, Secretary of the Wisconsin Pharmaceutical Association.

A section of the May issue of this JOURNAL will be devoted to a tribute to Dr. Eberle.

- A DYNAMIC PROGRAM TO ENCOURAGE PHYSICIANS TO MAKE GREATER USE OF THE SERVICES OF THE RETAIL PHARMACIST

Productive

By CHAIRMAN

CHAIRMAN, COM

IF WE are to be frank with ourselves, detailing has been generally ineffective in the hands of the practicing pharmacist who seeks to encourage a fuller utilization of his professional services by the doctors of his community.

To be sure, there have been isolated instances of successful, individualized programs, but, by and large, the pattern of most professional relations projects in the past has been about the same. A local, county, state or national pharmaceutical association sponsors a series of blotters and letters directed to physicians telling them about U. S. P. and N. F. preparations. A few articles in state medical journals, an exhibit at the state medical association convention, and perhaps a formulary complete the program. The results in most cases have been disappointing and the projects have slowly died out.

Why?

Largely, I believe, for one or more of the following reasons:

(1) The programs have neglected one all-important factor which is necessary to attract the interest of the physician: *the appeal of something new*. The detail man representing the pharmaceutical manufacturer calls on the physician with a *new* product or a *new* treatment that will improve his therapy, while the pharmacist has tried to stimulate interest in such products as Elixir of Iron, Quinine and Strychnine or Elixir of Phenobarbital.

(2) Most programs have approached the matter of detailing from a mass viewpoint. They are planned to be sufficiently general to appeal to all physicians and, as a result, they appeal to few because they make no attempt to meet the *individual* needs of those to whom they are directed. The pediatrician, the obstetrician, the surgeon, the dermatologist and the general practitioner each has his special needs and each individual has his own ideas of medication. Mass promotional methods are never very effective.

(3) Most programs offer the physician no opportunity to differentiate between pharmacists

in his community who are taking part in the program and those who are not interested. If the doctor does prescribe one of the preparations featured, his prescriptions may reach a pharmacy whose owner is not a member of his state association or is not interested in the program and the doctor gets a telephone call asking him if he, the pharmacist, can supply some other article for the official product prescribed. Naturally, the physician loses interest in the program.

(4) The sole appeal of too many programs has been *price*. Certainly by this time physicians must be getting tired of reading tables of comparative costs of similar non-official and official products and of hearing professional solicitations based on a cut-price appeal. In too many instances the physician has suspected that perhaps the motivating influence behind the pharmacist in such a campaign is the fact that he makes a larger profit on four ounces of the official product than he does on four ounces of the proprietary article.

If I am correct in this analysis of most professional relations programs, it would seem that the ideal program should meet the following requirements:

1. It would stress the factor of "something new."
2. It would be designed to appeal to the individual needs of different physicians rather than try to stimulate mass interest.
3. It would permit the physician to differentiate easily between the pharmacist who is interested in the program and the one who is not.
4. Its appeal would be its value to the physician in improving his treatment of disease rather than on price.

etailing

ALL EVANS

PROFESSIONAL RELATIONS

A study of these requirements would indicate that perhaps our association programs have been misdirected. Have we been trying to build from the top down instead of from the bottom up? Have we been trying to carry our professional relations programs directly to the doctor when we should be reaching him only through individual pharmacists?

I believe this may be the case for I have discussed this subject with a great many practicing pharmacists during the past year and a half and the consensus of their views is this: "Don't send form letters and blotters to physicians in my neighborhood in the hope that you will strike a responsive note and that they will write prescriptions which will come to me. I know the doctors in my area and I'll take care of the actual detailing. What you can give me is new, live material on which to detail. I'll do the rest."

A NEW APPROACH

Perhaps we should give this idea a trial. Here is a way in which I believe it can be done.

The Professional Relations Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION each month will make a study of the new drugs and new therapies reported by physicians in the medical journals of the country, of which there are more than one hundred. The committee will select those new treatments which involve the use of medication requiring the services of pharmacists in their compounding. A considerable proportion of the new therapies are based on the use of prescription specialties but a great many of them hinge upon the use of ointments, solutions, capsules, emulsions or suppositories which must be compounded by the pharmacist.

It is from these same medical journals that pharmaceutical manufacturers obtain clinical

reports of new uses of their specialties. They send summaries of these reports in bulletins to their detail men who use the information in their calls on physicians. Our committee will perform the same service to pharmacists on preparations which offer them an opportunity to do productive detailing.

Through the Practical Pharmacy Edition of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION the Committee will present its analyses of the medical reports, giving the pharmacist the information he needs on the composition and method of preparation of the drugs and pharmaceuticals involved, their advantages over other preparations, and such other professional information as he needs to present the new material to his physicians.

Only one or two items will be presented each month for it is better to do a thorough detailing job on one item a month than a sketchy job on half a dozen. Pharmacists are urged to make at least one detailing visit a month on their physicians and to base these calls on the new material.

Every new treatment or pharmaceutical will not interest every physician. Some will be taken from journals on dermatology, others from journals on surgery, others will deal with pediatrics, etc. It will be up to the pharmacist to determine which physicians in his community will be interested in the individual items.

How will this new productive detailing program meet the requirements set up previously in this article?

1. The products detailed will have the appeal of something new for they will be based on the latest published information in medical journals.
2. The program gives the pharmacist an opportunity to study the practices of the physicians in his community and appeal to their individual interests. He will not detail the obstetrician with a new ointment for psoriasis, nor will he waste the dermatologist's time discussing a new nasal spray, yet he will realize the widespread interests of the general practitioner and will detail him accordingly.
3. The information, in most cases, will reach the physician only through the pharmacist who is taking part in the program. In some few instances the



Lee W. Wolfe, pharmacist of Reading Hospital, Reading, Pa., who aided Dr. Thomas Butterworth in developing Solution of Aluminum Citrate for use in place of Burow's Solution.

physician will have read the original article but most of the material will be taken from specialized journals which are more likely to be missed by the busy practitioner. Since the information reaches Physician Jones from Pharmacist Brown as a service of his pharmacy, Dr. Jones knows where his patients can obtain the new preparation and he can so advise them. This factor safeguards the program against defeat at the hands of uninterested pharmacists.

4. The products detailed will represent contributions to the more effective treatment of disease as reported by physicians. They will be drugs of sufficient importance to merit reporting in leading medical journals. Thus their appeal will be on their merit, not on any price consideration.

START THIS MONTH

There is no better time to start than now. On the following pages is a summary of an article on the superiority of Solution of Aluminum Citrate over the well-known Burow's Solution of the National Formulary. The original article appeared in *Archives of Dermatology and Syphilology* for March, 1942, published by the American Medical Association, one of the most important dermatological journals in this country. The work was done by Dr. Thomas Butterworth a dermatologist, and Lee W. Wolfe, a pharmacist, of Reading Hospital, Reading, Pa.

Read the article carefully. Obtain a supply of aluminum citrate and make up the solution lotion, paste and ointment so that you can leave a sample of each with your physicians.

Organize your presentation to bring out the following points:

I. Introduction.

- A. Gain the physician's attention by emphasizing the fact that "here is something new in medication."
- B. Cite the journal in which the original article appeared.
- C. Identify the authors.

II. Explain Disadvantages of Burow's Solution

- A. Frequently produces irritation.
- B. Requires 24 hours to prepare.
 - (1) Must be kept in stock solution.
 - (a) Unstable and throws down precipitate of basic aluminum acetate which increases acidity and irritating properties.

III. Explain Superiority of Solution of Aluminum Citrate.

- A. Constant composition.
- B. Prepared extemporaneously.
 - (1) No need for stock solutions.
- C. As effective as Burow's Solution.
- D. More constant in action.
- E. Fewer complaints of irritation.

IV. Explain How Prescribed.

- A. Economy of concentrated solution.
- B. Directions for dilution.

V. Explain Other Preparations.

- A. Lotion, Paste, Ointment.

Study your prescription files for the past several months to determine which physicians in your community use Burow's Solution frequently and which prescribe it seldom or not at all. This will give you your cue as to your approach. Those doctors who use Burow's Solution regularly will be interested in trying the new solution. Those who are not using Burow's Solution now may be avoiding it because of its irritating properties and they will be especially interested in the new solution. In any event, know your doctors and their prescription habits so you can talk intelligently.

PROFESSIONAL RELATIONS

To provide the background for the detailing efforts of individual pharmacists, but not to supplant them, the Professional Relations Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION is developing a coordinated program to encourage greater mutual understanding of the problems of physicians and pharmacists. Starting with the Joint Conference between the American Medical Association and the AMERICAN PHARMACEUTICAL ASSOCIATION in Cleveland on April 6th the program will be continued at state medical and pharmaceutical association conventions this summer. The state associations have been asked to exchange speakers this year and most of them have accepted the suggestion. These meetings provide an opportunity to discuss general topics of concern to both professions and reach understandings which are only possible by pharmacists and physicians acting collectively through their associations.

PROFESSIONAL DISPLAYS

Although displays at conventions of medical associations offer an effective means of acquainting the physician with the type of pharmaceutical service he may expect from pharmacists, most of the displays which I have seen fall far short of achieving this objective. A long table with a miscellaneous collection of neatly labeled bottles and jars makes a pretty picture, *but it doesn't tell a story*. The physician looks over the exhibit and shows a general interest in it but there is no punch, no one striking feature, which creates a lasting impression in his mind and stimulates him to do something.

The Committee on Professional Relations believes that the professional relations com-

mittees of state associations are eager to improve the quality of their displays—but that they want ideas, suggestions, and plans. Here's a project I should like to try:

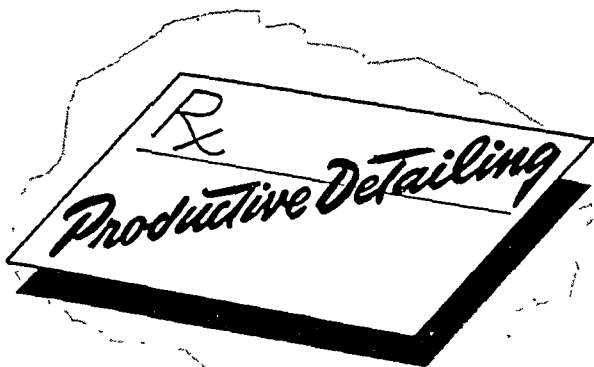
Right now, our Committee is assisting in designing the A. Ph. A. exhibit for this year's A. M. A. Convention in Atlantic City. We are putting a lot of time and work on it in an attempt to develop a striking display that will put its message over with a real punch. When the display is completed we will set it up in the AMERICAN INSTITUTE OF PHARMACY in Washington, photograph it, make diagrams of it and prepare a full description of how to duplicate it. We will then place this information in the hands of the professional relations committees of every state pharmaceutical association in the country so that they may make similar displays at their state medical conventions.

Thus the Professional Relations Committee recognizes that there is a distinction between (1) those objectives which can be achieved only through collective action and (2) those objectives which can be achieved only through individual action. The committee will not attempt to detail physicians over the heads of pharmacists and it suggests that individual pharmacists not take it upon themselves to stage one-man campaigns to correct the general misunderstandings between the professions of medicine and pharmacy. Pharmacists individually and pharmacists collectively have their own spheres of operation in this program and the best results will be secured if the limitations of these spheres are observed.

Will the new Productive Detailing project, backed by a comprehensive Professional Relations Program, prove to be the answer to encouraging physicians to make a greater use of the professional services of the pharmacist? Only time will tell. In the meantime, will you give it a fair chance in your pharmacy?

Inquiries, comments, criticisms and suggestions will be welcomed by the chairman of the Committee.





BETTER THAN BUROW'S— SOLUTION

NEW PREPARATION SUGGESTED
AS SUBSTITUTE FOR SOLUTION
OF ALUMINUM ACETATE, N. F.

A SIX per cent solution of aluminum citrate has all of the therapeutic properties of the five per cent solution of aluminum acetate of the National Formulary, better known as Burow's Solution, and has none of its unfavorable qualities, according to Dr. Thomas Butterworth and Lee W. Wolfe of the Reading Hospital, Reading, Pa., in *Archives of Dermatology and Syphilology* for March, 1942 (45 (3), 514-518). Dr. Butterworth is a dermatologist and Mr. Wolfe is a pharmacist.

Burow's Solution is widely used by dermatologists as an antiseptic, antiphlogistic and refrigerant wet dressing in acute inflammations of the skin, but recently it has been rather severely criticized as irritating. The official solution is made by the reaction of aluminum sulfate and lead acetate and there is always a possibility of unreacted lead acetate in the finished preparation, a condition which many believe to be the cause of complaints concerning its irritating properties. A further disadvantage of the official solution is that it requires 24 hours to prepare and, therefore, must be kept on hand in stock solution for use on prescriptions. The solution is rather unstable and throws down a precipitate of basic aluminum acetate which on standing

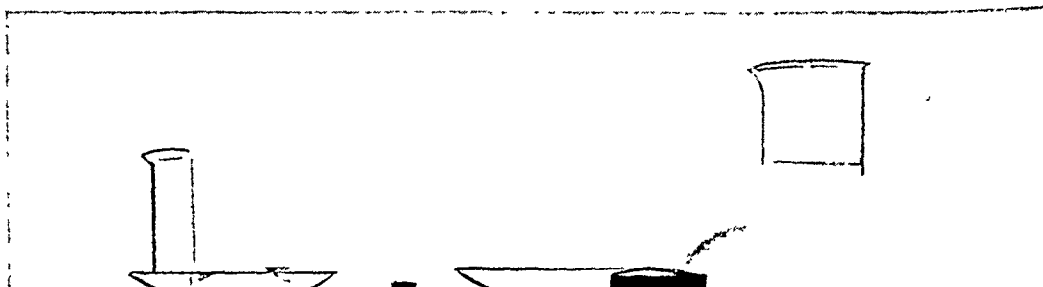
increases the acidity and irritating properties of the preparation.

Thus, a substitute of constant composition which exhibits the favorable properties of solution of aluminum acetate, is easily prepared extemporaneously, and is less irritating, is a worthwhile addition to the dermatological armamentarium. Dr. Butterworth and Mr. Wolfe believe they have found such a substitute in aluminum citrate, used at present in deodorant creams and various foot powders. The 6 per cent solution of aluminum citrate has been used for more than a year in the Reading Hospital Clinic and in Dr. Butterworth's private practice with excellent results. It is fully as effective as Burow's Solution, is more constant in its action and, although not tolerated in every case, complaints of irritation are much less frequent.

Aluminum citrate, $* \text{AlC}_6\text{H}_5\text{O}_7$, is commercially available as a glassy crystalline substance which may be readily ground to a fine white powder. It is slowly soluble in cold water but very soluble in boiling water. A solution containing one kilogram per liter may be made using boiling water and the chemical does not crystallize out as the solution cools.

Since aluminum acetate has a molecular weight of 204 and contains 13.22 per cent of aluminum,

* Aluminum citrate is available from the Mallinckrodt Chemical Works, St. Louis, Mo.



ALUMINUM CITRATE

while aluminum citrate has a molecular weight of 216 and contains but 12.48 per cent of aluminum, slightly more of the citrate must be used to secure the equivalent astringent effect of the acetate. Then, too, aluminum citrate contains approximately 10 per cent of water. On the basis of these figures, a 6 per cent solution of aluminum citrate contains approximately the same quantity of aluminum as Solution of Aluminum Acetate, N. F., which is a 5 per cent solution.

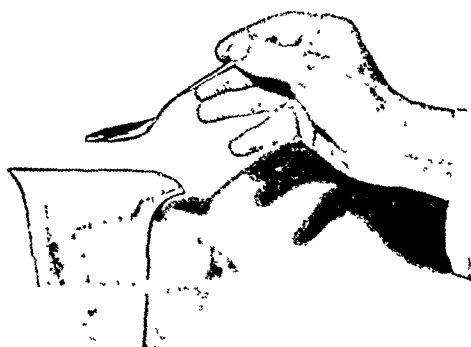
CONCENTRATED SOLUTION

Having chosen a 6 per cent solution of aluminum citrate as the approximate equivalent of Burow's Solution, Dr. Butterworth and Mr. Wolfe felt that some economies could be effected by dispensing the solution in a more concentrated form when it is intended for wet dressings and compresses.

Aluminum citrate.....	36.
Distilled water g. s.....	100.

They decided on a 36 per cent solution so that 1 teaspoonful, 5 cc., would have the same properties as 2 tablespoonfuls, 30 cc., of Burow's Solution. Dr. Butterworth prescribes $\frac{1}{2}$ to 2 ounces of the 36 per cent solution of aluminum citrate with directions to the patient to dilute 1 teaspoonful with 10 to 16 ounces of water. The solution is applied in the same manner as is Burow's solution.

One teaspoonful of concentrated solution is diluted with 10 to 16 ounces of water by the patient.



ALUMINUM CITRATE LOTIONS

Aluminum citrate may be incorporated into lotions for dermatological use. One such lotion with good keeping qualities may be made by the following formula:

Boric acid.....	4.0 Gm.
Zinc oxide.....	30.0 Gm.
Sol. Alum. Cit. (6%).....	20.0 cc.
Witch Hazel.....	60.0 cc.
Water, q. s.....	240.0 cc.

To this stock lotion may be added more zinc oxide, talc, resorcinol, phenol and glycerin without disturbing its stability. Solution of Coal Tar, N. F., may be incorporated, but must be added just before the lotion is to be used as it gradually precipitates the aluminum salt.

In preparing the lotion, do not use solution of calcium hydroxide as this chemical reacts with the aluminum salt to form a gelatinous precipitate of aluminum hydroxide.

Note: In a personal communication to this JOURNAL, the authors state that they have used bentonite in the above lotion and, although it makes a better preparation from a pharmaceutical viewpoint, some patients object to it because it gives a heavier coating of material on the skin. Pharmacists who wish to use this suspending agent might add 40 per cent of Magma of Bentonite, N. F. VII. The authors also state that in order to conserve zinc oxide they have reduced the amount of this ingredient to one-half the specified quantity and have added an equal amount of calcium carbonate. The preparation retains its clinical qualities satisfactorily with this change.

The concentrated solution is diluted to make a 6 per cent solution for use in pastes, lotions or creams.



Aluminum citrate may be incorporated into lotions for dermatological use.

ALUMINUM CITRATE PASTE

An aluminum citrate paste, similar to Burow's Paste and used for the same purposes, may be made by the following formula:

Sol. Alum. Cit. (6%)	.....	10 cc.
Wool fat	...	20 Gm.
Paste of Zinc Oxide, N. F.	.....	30 Gm.

This basic paste may be modified by the addition of anti-pruritic substances such as phenol, menthol, Solution of Coal Tar, N. F. and other medication.

ALUMINUM CITRATE CREAM

Fine creams of aluminum citrate may be made by incorporating the 6 per cent solution in a base of hydrous wool fat and petrolatum or with an absorbtion base such as the following:

Sol. Alum. Cit. (6%)	.....	7.5 cc.
Oxycholesterol-petrolatum base,*		
q. s.	.....	30.0 Gm.

Up to 50 per cent of the solution of aluminum citrate may be incorporated and phenol, menthol or Solution of Coal Tar, N. F. may be added.

* Merck Absorbtion Base.	. 15 0
White Petrolatum, q. s.	100 0

An aluminum citrate paste similar to Burow's Paste may be made.

Druggists' Digest

OF NEW FORMULAS, RECENT PHARMACEUTICAL DEVELOPMENTS, AND OTHER PROFESSIONAL DATA

DERMATITIS DUE TO HYDROQUINONE IN BABY OILS

Hydroquinone, used as an antioxidant in "antiseptic baby oils" to prevent rancidity, is a substance with a high index of sensitivity from the dermatological standpoint and the routine use of such oil, in the case of infants, over a long period of time should be under careful control, according to Dr. Joseph H. Lapin, of New York City, in the *American Journal of Diseases of Children*, for January, 1942.

Dr. Lapin recently has had six cases of babies under three months of age with patchy, erythematovesicular dermatitis. In every case the mother had been using "antiseptic baby oil" on the baby's face. Omission of the oil and the application of a bland ointment cleared up the skin condition promptly.

Dr. Lapin patch-tested the six infants for 48 hours and all showed positive reactions. He then patch-tested 30 newborn infants and only one gave a positive reaction. From this, Dr. Lapin believes that there is a definite period during which an infant's sensitivity to hydroquinone increases with each application of the baby oil until, after a few months, the sensitivity is manifested by a dermatitis.

VAGINAL TAMPON USEFUL IN COLOSTOMY MANAGEMENT

The patient who has had a colostomy always faces a trying problem in taking proper care of the orifice. Colostomy bags have been largely discarded and gauze pads used in their place, but even these leave much to be desired, particularly in the care of the fastidious patient.

Dr. M. A. Slocum, Attending Surgeon of St. Margaret Memorial Hospital, Pittsburgh, had a woman patient who objected to the usual pads and suggested trying a vaginal tampon of the type which has come into general use within the past few years. The suggestion proved most efficient. The routine is to irrigate the bowel in the morning, insert the tampon with its outer covering into the stoma of the bowel to a distance just sufficient to leave enough of the outer paper tubing to permit its withdrawal. The tube is withdrawn and any protruding portion of the tampon is further pushed into the opening until only the connecting string is left. A few layers of gauze or toilet paper over the colostomy complete the dressing. Under normal condition, 24 hours may elapse before the dressing needs to be changed.

—*Amer. J. Surg.* 55, 1 (Jan. 1942), 183

VALUE OF AMPHETAMINE IN OBESITY CHALLENGED

Conflicting reports have been made concerning the value of amphetamine (Benzedrine) sulfate in the treatment of obesity. It has been claimed that the drug is superior to thyroid extract because it decreases the appetite, delays the emptying time of the stomach, and increases the basal metabolic rate, but these claims have been questioned.

To shed additional light on the subject, Dr. S. W. Kalb, of Newark, N. J., placed 500 patients who were 10 to 125 per cent overweight on low-caloric, high-protein diets (800 to 1500 calories a day) and for intervals of four weeks he prescribed (a) amphetamine, (b) thyroid extract, (c) a combination of amphetamine and thyroid ex-

tract, and (d) placebos. The patients were weighed weekly for 16 weeks and Dr. Kalb found that none of the drugs increased the rate of weight loss over that resulting from the sub-maintenance diet alone.

Jour. Med. Soc. N. J., 39, 2 (Feb. 1942) 74-75

MOOK'S LOTION AND ALIBOUR WATER

Writing in *Tri-State Medical Journal* (14, 4 (Jan. 1942), 2603-2606), Dr. Wallace Marshall, of Appleton, Wis., lists two lotions used in the treatment of acne vulgaris. Pharmacists should make a note of them in order to have the formulas available should a physician prescribe them by name. The two preparations are as follows:

ALIBOUR WATER

Zinc sulfate.....	5.6
Copper sulfate.....	1.6
Saturated camphor water.....	240.0

MOOK'S LOTION

Liquor carbonis detergens.....	12.0
Zinc oxide.....	48.0
Corn starch.....	48.0
Glycerin.....	72.0
Water, q. s.....	240.0

STUDIES GIVE HOPE OF SULFONAMIDE DETOXICATION

The sulfonamide drugs, although among the most effective therapeutic agents available, have undesirable toxic side-actions which in many cases limit their use. On the theory that the process of aiding the body in its fight against infection by administering sulfonamide compounds also gives the body toxic chemicals which it must detoxify, Drs. G. J. Martin, C. V. Fisher and M. R. Thompson, of the Warner Institute for Therapeutic Research, New York City, are studying the possibilities of reënforcing the body's natural processes of detoxication.

The authors have given mice and other animals therapeutic doses of sulfanilamide, sulfapyridine and sulfathiazole with simultaneous doses of aminoacetic acid, choline, cystine, glucuronic acid, glutamine, ascorbic acid, sulfates, acetates, ornithine, and many other substances.

In the case of sulfanilamide, the acute toxic effects of the drug have been reduced as much as 40 per cent by the simultaneous administration of either calcium glucuronate or a combination of aminoacetic acid, cystine, calcium glucuronate and ascorbic acid. The administration of these substances not only did not decrease the efficacy of the sulfanilamide, but slightly increased its effectiveness against hemolytic streptococcal infections. Absorption of the drug was increased by approximately 10 per cent.

The simultaneous administration of either aminoacetic acid or ascorbic acid decreased the toxicity of sodium sulfapyridine by as much as 50 per cent with no decrease in therapeutic effect or absorption.

Cystine or aminoacetic acid reduced the toxicity of sodium sulfathiazole by as much as 50 per cent without affecting the therapeutic efficacy or absorption of the drug.

This work, thus far conducted on both laboratory animals and many clinical patients, offers tremendous potentialities for clinical application in extending the usefulness of sulfonamide drugs by reducing the incidence of toxic reactions accompanying their use.

—*Arch. Int. Med.*, 69, 4 (Apr. 1942), 662-669

DERMATOLOGISTS DENY ATHLETE'S FOOT IS CONTAGIOUS

Fungous infections of the feet and groin, commonly known as Athlete's Foot, are rarely, if ever, contagious and the harsh prophylactic measures widely used in the home, the swimming pool and the gymnasium are not only illogical and serve no useful purpose, but are potentially harmful to the skin, according to Drs. Marion B. Sulzberger and Rudolf L. Baer, of the Dermatological Service, Montefiore Hospital for Contagious Diseases, New York City, and Dr. Rudolph Hecht, of the Department of Dermatology, University of Illinois College of Medicine, Chicago.

These dermatologists state that they personally have never believed that Athlete's Foot was

contagious and, therefore, they have never given directions to their patients to guard against giving the disease to other members of their households, and they have recorded no case of familial or conjugal transmission of the disease in their respective practices in the past ten years. To check their ideas they sent questionnaires on the subject to a group of outstanding dermatologists and out of 88 replies covering many thousands of observed cases, only four cases of proved transmission of the infection were reported. This question is of immediate importance to the military personnel, as well as the civilian public, and the evidence indicates that the rare occurrence of transmission of Athlete's Foot from one person to another is of little, if any, practical importance.

The authors believe that everyone carries pathogenic fungi in quiescent foci on the feet, beneath the toenails, and in the groin and that acute attacks of Athlete's Foot are caused by a lowering of the individual's resistance to his own germs.

Prophylactic measures which stress personal hygiene of the feet should be recommended but "the often difficult, disagreeable, expensive and potentially skin-damaging prophylactic measures" should be avoided, they state.

—*Arch. Derm. & Syphil.*, 45, 4 (Apr. 1942), 670

FERRIC CHLORIDE OINTMENT USEFUL AGAINST POISON IVY

A new ointment which is completely effective against poison ivy dermatitis if it is applied before contact with the plant has been developed by Dr. Edmund L. Keeney, of Baltimore, Md., at the Municipal Poison Ivy Clinic instituted by that city in an effort to decrease compensation disabilities for this dermatitis among city employees. The formula of the ointment is as follows:

Ferric chloride.....	10
Anhydrous lanolin.....	60
Vanishing cream.....	30

The ointment permanently stains clothing, however.

Cotton stockings and gloves soaked in a 10 per cent solution of ferric chloride provide effective protection against poison ivy, states Dr. Keeney.

—*South. Med. J.*, 35, 4, 408-409

SULFATHIAZOLE IN PUSTULAR ACNE

Dr. Thomas S. Saunders, of Portland, Oregon, reports that the addition of 0.5 per cent of sulfathiazole to sulfur lotion increases the effectiveness of this preparation in the treatment of pustular acne. The number of pustules is conspicuously reduced after three weeks of treatment, states Dr. Saunders, the sulfathiazole being responsible for clearing them up, while the sulfur exerts its usual keratolytic effect.

—*Arch. Derm. & Syphil.*, 45, 4 (Apr. 1942), 762

N.N.R. DROPS MINERAL OIL INHALANTS

Because of the danger of lipid pneumonia from the repeated intranasal use of preparations containing mineral oil, the Council on Pharmacy and Chemistry of the American Medical Association has withdrawn its previous acceptance of such products and has dropped them from New and Non-Official Remedies. In the absence of evidence as to the dangers of nasal preparations with vegetable oil bases, such products are retained.

CONVERSION TABLE ON PRESCRIPTION BLANKS

To assist physicians in converting apothecary measures of weight and volume into their metric equivalents, Dr. A. A. Anderson, of Freeport, L. I., N. Y., in the *Journal of the American Medical Association* for March 21, 1942 (page 999), suggests that the following table be printed in the lower left-hand corner of prescription blanks:

Grains	Gm. or cc.
$\frac{1}{100}$	0.0004
$\frac{1}{120}$	0.0005
$\frac{1}{100}$	0.0006
$\frac{1}{6}$	0.011
$\frac{1}{4}$	0.016
1.....	0.065
15.....	1.0
60 (1 drachm).....	4.0
1 oz.....	32.0

SULFATHIAZOLE IN ATHLETE'S FOOT

Because Athlete's Foot is a real problem of military medicine among troops in the warmer climates, often hospitalizing men for considerable periods of time, Lt. C. J. Rademacher, of the Medical Corps, 899th Tank Destroyer Battalion Ft. Lewis, Wash., has experimented with new lines of treatment and has had interesting results with sulfathiazole.

Starting with 75 cases, he treated half with pure sodium sulfathiazole crystals dusted on the lesions, and the other half with 50 per cent of sulfathiazole in talc dusted on the lesions once a day. The results were spectacular. Practically all of the cases were improved within 48 hours, both groups showing about the same reaction with the exception of some cases of irritation noted among those treated with the pure crystals. After 72 hours, one half was treated with 50 per cent of sulfathiazole in talc and the other half with a 25 per cent mixture. The results were equally satisfactory and Lt. Rademacher believes a 10 per cent mixture would be equally effective.

Of the 75 cases, 22 were completely cured, 9 were incompletely treated for various reasons and 44 were not completely cured and, therefore were classified as highly resistant.

The 44 resistant cases were treated with an ointment consisting of 10 per cent of sulfathiazole in 2 per cent salicylic acid ointment. Of this group 33 were cured, 5 discontinued treatment and 6 still were resistant but were symptomless except for slight itching.

Lt. Rademacher suggests the addition of 10 per cent of sulfathiazole to Army Foot Powder for the treatment of Athlete's Foot in the military forces, and the use of the sulfathiazole-salicylic acid ointment in resistant cases.

—*Military Surgeon, 90, 4 (Apr. 1942), 431-434*

SODIUM PERBORATE OINTMENTS FOR POISON IVY PREVENTION

Dr. Louis Schwartz, of the United States Public Health Service, has revised the formula he recommended some time ago for ointment of

sodium perborate in the prevention of poison ivy dermatitis. The original formula was made with a vanishing cream base which permitted the perborate's oxygen to escape and the ointment to become ineffective. Dr. Schwartz now suggests the use of either of the following formulas:

FORMULA I

Castor oil.....	21.5
Olive oil.....	21.5
Lanolin, anhydrous.....	21.5
Diglycol stearate.....	12.9
Paraffin, refined.....	8.6
Boric acid.....	2.0
Sodium perborate.....	10.0
Duponol WA pure (DuPont)	2.0

FORMULA II

Cetyl alcohol.....	35.1
Stearyl alcohol.....	5.3
Ceresin.....	3.5
Castor oil.....	20.8
Mineral oil.....	21.9
Duponol WA pure (DuPont).....	1.7
Sodium perborate.....	10.0
Boric acid.....	1.7

The ointment should be thickly applied to exposed parts, such as the hands and face. Clothes and garden tools which have been used in cutting or removing poison ivy can be decontaminated by immersing them for fifteen to twenty minutes in a 1 per cent solution of calcium hypochlorite.

Pub. Health Rep. 57:16 (Apr. 17, 1942) 578-585

DROPPER BOTTLES FOR NOSE DROPS CONDEMNED

Dropper bottles in which the dropper extends into the solution are condemned by Drs. J. L. Gompertz and P. Michael, of Oakland, Calif., as containers for nose drops used in the treatment of colds.

The physicians made cultures of unused bottles of solutions for intranasal use and found them sterile. Cultures of solutions which had been used by patients all yielded bacterial growths. Apparently the repeated passage of the dropper from

nostril to solution had established bacterial contamination.

The authors point out that it is a common practice in most households for different members of the family to use the same bottle of nose drops and in so doing they run the risk of transmitting infections from one to another. Even the person who uses nose drops which he used for a previous cold runs the risk of complicating his infection for his former cold may have been caused by different bacteria.

It is recommended that patients follow one of the following courses:

(1) Purchase small dropper bottles of nose drops and throw them away, bottle and all, at the end of the infection.

(2) Purchase nose drops in a plain screw cap bottle. Use the drops by pouring out the amount needed for the treatment into a teaspoon. Replace the cap on the bottle and fill a dropper from the teaspoon. Never put back any solution into the bottle and never put the dropper or anything else into the bottle.

This report suggests the advisability of dispensing nasal drops in plain screw cap bottles with an accompanying dropper instead of using dropper bottles. The pharmacist should also explain how to use the nose drops to prevent contamination of the solution.

—*J. A. M.*, 118, 15 (Apr. 11, 1942), 1287

Melt the beeswax in the liquid petrolatum on a water bath. Mix the triethanolamine with the water and heat to the same temperature as the petrolatum-wax mixture. Mix the sulfathiazole with the triethanolamine solution and add the petrolatum-wax mixture, stir vigorously until a creamy emulsion is obtained.

Wounds and ulcers are packed with gauze which has been soaked in the emulsion. The preparation keeps the walls of the cavity oiled, preventing the adherence or clothing of lymph. Loose packing over the emulsion-soaked gauze permits constant drainage and the packing need not be removed for several days. It is readily removed with little discomfort to the patient.

Dressings soaked in the emulsion are used in the treatment of burns of the hands, feet, face and genitalia where tannic acid preparations which form eschars are contraindicated. The Canadian physicians have also used the emulsion for various surface dressings and then find that with its use wounds remain clean and heal rapidly.

Determinations of blood concentrations of patients have shown that little of the sulfathiazole is absorbed, but three characteristic skin rashes have been noted.

The emulsion-soaked packs are ideal for vaginal work, state the physicians, who have used them preoperatively to prepare a clean field, and as an adjunct in gynecological surgery to reduce the danger of infection. The packs have also been used in the vagina after incomplete abortions. The authors suggest the advisability of using emulsion-soaked packs in the rectum following hemorrhoid operations.

—*Can. Med. Assoc. J.*, 46 (Mar. 1942), 209-214

EMULSION OF SULFATHIAZOLE

Drs. D. Ackman and G. Wilson, of Montreal, have developed a 5 per cent emulsion of sulfathiazole for use as a wet dressing in the treatment of wounds, abscesses, burns, ulcers, carbuncles and in gynecological surgery. The formula of the emulsion is as follows:

Sulfathiazole (finely powdered).....	5	1
Triethanolamine.....	2	1
Distilled water.....	24	1
White beeswax.....	5	1
Liquid petrolatum.....	64	1

IN THE NEWS

Dr. Robert P. Fischelis, Secretary of the New Jersey Board of Pharmacy, received the honorary degree of Sc.D. from the Rutgers University College of Pharmacy at its commencement exercises on May 6th.

Francis E. Bibbins, Chief Pharmacist of Eli Lilly and Company, Indianapolis, Ind., received the honorary degree of Sc.D. from the School of Pharmacy, Purdue University, on May 3rd, in recognition of his contributions to the art and science of pharmacy through original investigations.

Dr. Otto Loewi, Nobel Laureate in Medicine in 1926, will be a Walker-Ames visiting Professor of Pharmacology and Physiology for the spring quarter of this year at the University of Washington College of Pharmacy, Seattle.

Six scholarships, valued at one hundred dollars each, will be offered by the College of Pharmacy of the City of New York beginning with the 1942-1943 session under a grant from the Trustees of the Estate of the late Henry Pfeiffer. The scholarships, awarded for one year, will be given on a basis of financial need, scholarly ability and personal qualifications of applicants for the practice of pharmacy.

The American Association for the Advancement of Science has cancelled its June meeting at Ann Arbor because of changes in the academic sessions at the University of Michigan. The next meeting of the Association will be held in New York City during the week of December 28th.

The Committee of Revision of the United States Pharmacopoeia has announced that in U. S. P. XII Ammoniated Mercury Ointment will be 5 per cent in strength instead of 10 per cent, as at present, and Mild Mercurial Ointment will be 10 per cent in strength instead of 30 per cent. Because of the shortage of mercury stocks due to the present emergency, the U. S. P. has recognized these changes by Interim Revision, effective immediately.

Senator Josh Lee, of Oklahoma, has introduced a Bill in Congress which authorizes and directs the Secretary of War "to take such action as may be necessary, and as may be possible in view of the number of registered pharmacists in service or whose services are available to the Army, to assure that a registered pharmacist is placed in charge of each Army dispensary or similar establishment from which drugs are dispensed."

QUININE ORDER AMENDED

Conservation Order No. M-131, restricting the purchase, sale and use of quinine and its sales, has been amended as of April 30th, as follows:

(1) To restrict the purchase, sale and use of totaquine to anti-malarial purposes (stocks of less than 50 ounces on hand April 30th are exempted).

(2) To permit the use of quinine as an ingredient of quinine hydrochloride and urethane.

(3) To prohibit the purchase, sale and use of cinchona bark except for primary use for the extraction of quinine or totaquine.

(4) To prohibit the processing or combining of cinchona bark with other materials except for primary use for the extraction of quinine or totaquine. This provision does not affect the use of preparations of cinchona bark manufactured before April 4th but it bans the manufacture of such preparations as Compound Tincture of Cinchona after that date.

(5) To require purchase certificates for totaquine.

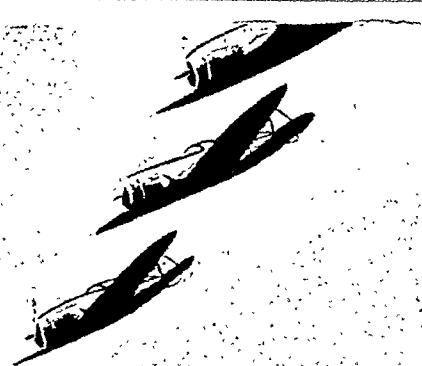
(6) To require purchase certificates for cinchona bark.

(7) To require that purchase certificates for quinine, totaquine and cinchona bark specify, on the reverse side of the certificate, the quantity involved in the transaction.

(8) To prohibit the processing or combining of quinine with other materials except for use as an anti-malarial agent, an ingredient of quinine and urea hydrochloride for hypodermic use, or as an ingredient of quinine hydrochloride and urethane.

(9) To prohibit the processing or combining of totaquine with other materials except for use as an anti-malarial agent.

Although the order exempts stocks of less than 50 ounces of quinine and totaquine which pharmacists had on hand on the respective effective dates, the evident intent of the order is to conserve the supply of these drugs to the fullest extent possible and pharmacists will be performing a patriotic service if they will go beyond the actual wording of the regulations and restrict the use of their present supplies to anti-malarial purposes. Pharmacists who have on hand unopened packages of quinine and its salts or quinine tablets which they do not require, would render a real service by returning them to their sources of supply and thus releasing such for use where it is needed most.



BLACKOUT YOUR PHARMACY...

**FOLLOW THESE SUGGESTIONS
IN EQUIPPING YOUR PHARMACY
TO RENDER PHARMACEUTICAL
SERVICE DURING EMERGENCIES**

TO DEPRIVE enemy air forces of the means of locating targets or checking their positions, blackouts have been adopted by the United States as a defense measure in which every citizen must do his part. Blackouts are not voluntary; they are compulsory. Laws have been enacted in most communities to permit the levying of fines and the imposition of prison sentences on those who refuse to conform to regulations and,

in so doing, endanger not only themselves, but the entire community.

All-night, every-night blackouts throughout the entire United States probably will never be required but coastal areas have already been asked to effect partial blackouts to the extent that lights cannot be seen from the ocean. Other communities are having test blackouts and the time may not be far off when areas adjacent to important defense factories may be required to blackout every night. Every community should be prepared to blackout on a few minutes' notice.

On first thought it would seem to be simple enough to pull the switches in the power houses which supply the community with electric power and thus obtain a one hundred per cent blackout in a fraction of a second. However, to plunge

a community into total darkness, stop trains, street cars, elevators and various types of machinery for a considerable period each evening would create additional risks to life and health unnecessarily. The purposes of a blackout can be achieved and the life of the community can continue with minor restrictions if sound rules are followed conscientiously.

PHARMACIES SHOULD STAY OPEN

Blackout methods are more important to the pharmacy than to any other retail establishment in the community for it must remain open during part of the evening to fill prescriptions and furnish other supplies which are essential to the prevention and treatment of disease. Most physicians have office hours in the early evening and, in addition, make a considerable number of house calls. Their patients require medication and the public has a right to expect and demand that pharmaceutical service be available. In a recent blackout in the City of Washington a considerable number of pharmacies, particularly the chain stores, closed up at 7:30 and the protests from the public were immediately forthcoming. One particularly aroused citizen wrote a strong letter to the newspapers excoriating those pharmacies which "sullenly closed their doors with an attitude of 'the public and the war effort be damned.'"

There has been some hesitancy on the part of pharmacists to proceed with blackout procedures until they had suggestions from the U. S. Office of Civilian Defense as to recommended methods. These pharmacists have expressed their willingness to bear the cost of blackout materials if they had some assurance that the methods they used to obscure their lights were satisfactory. It is understandable that a pharmacist should wish to avoid wasting money on the installation of blinds or drapes which would not meet the requirements of OCD and would have to be replaced at considerable expense. With that in mind, the AMERICAN PHARMACEUTICAL ASSOCIATION has conferred with the

U. S. Office of Civilian Defense, studied the recommendations which have been developed by the War Department with the assistance of the Chief of Engineers of the U. S. Army and the National Technological Civil Protection Committee, and prepared the following recommendations for pharmacists.

The suggested methods have been recommended by the U. S. Office of Civilian Defense. The ASSOCIATION wishes to acknowledge the assistance of Major General L. D. Gasser, U. S. Army War Department Member of the Board for Civilian Protection, who assisted in the preparation of this material on behalf of OCD.

The requirements for blackouts will vary in different sections of the country and pharmacists should consult their local Defense Directors to determine the extent to which blackouts are expected to be ordered and obtain specific information on such local regulations as are to be enforced.

OBJECTIVE OF BLACKOUT

The objective of blacking out a pharmacy, which of necessity must operate under fairly high levels of illumination, is to permit it to remain open for service and yet allow no light to be seen from the exterior. Although this, of course, requires adequate covering of windows and transoms, the greatest problem is in dealing with the doorway in a way which will permit customers to enter and leave but will not allow any light to be seen from the street.

DISPLAY WINDOWS

The U. S. Office of Civilian Defense is at present working on specifications for low-intensity lighting equipment which will be permitted for exterior use and in display windows. The equipment will include the use of blackout lamps which will be manufactured by leading lamp manufacturers, or special fixtures which achieve the same lighting characteristics. Specifications for such

Prepared and published by the

**AMERICAN PHARMACEUTICAL
ASSOCIATION**

Reviewed and passed by the

U. S. OFFICE OF CIVILIAN DEFENSE

Washington, D. C.



equipment and details of their availability will be published in this JOURNAL when issued by OCD.

Until such lighting equipment is available for use, all exterior and display window lights must be extinguished during blackouts. If windows are illuminated after the pharmacy is closed in the evening, an outside switch for their immediate extinguishment must be available to police and air raid wardens.

No light from the interior of the pharmacy must be visible through the windows. If the display windows of the pharmacy have solid panel backs which allow no light from the store proper to be seen, no additional safeguards are necessary except to inspect the panels carefully and plug up any cracks or small holes with a substance such as plastic wood.

If the window backs are not solid wood, but have glass panels, these must be obscured with

close fitting panels made of suitable blackout materials. Such material should be:

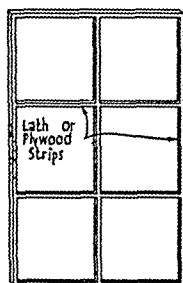
1. Opaque, to the extent of not transmitting more than 0.001 per cent of light incident to the surface.
2. Flameproof.
3. Preferably water-repellent.
4. Strong enough to protect against glass splinters.

Plywood, Celotex wallboard, or Masonite wallboard, $\frac{3}{8}$ inch, meet these requirements best. Heavy building paper or Sisalkraft paper are next best. If building paper or Sisalkraft paper is used the panels should be securely fastened to a rigid wooden frame to make them durable. Panels should preferably be designed to give way bodily before blast, *i. e.*, hinged or removable. A strip of felt, flannel or other thick material should be tacked or glued along the

THE SCREEN COMPLETE

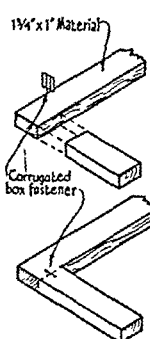


① INSIDE VIEW.

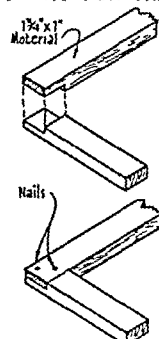


② OUTSIDE VIEW.

SKETCHES OF ALTERNATIVE JOINTS FOR FRAME

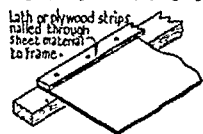


③ BUTT JOINT

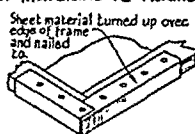


④ HALVED JOINT.

METHODS OF FIXING SHEET MATERIAL TO FRAME

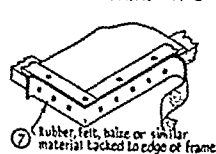


⑤ LATH OR PLYWOOD STRIPS.



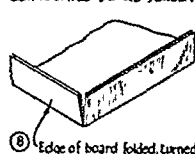
⑥ NAILING DIRECT TO FRAME.

EDGE FIXING & GASPROOFING



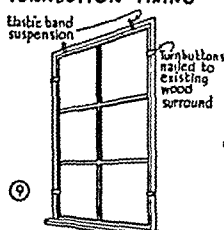
⑦ Rubber, felt, balze or similar material locked to edge of frame.

CORRUGATED BOARD SCREENS



⑧ Edge of board folded, turned.

TURNBUTTON FIXING



⑨

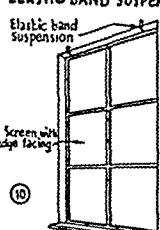
SCREEN IN POSITION.



⑪

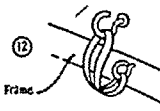
SKETCH OF TIN TURNBUTTON

ELASTIC BAND SUSPENSION



⑩

SCREEN IN POSITION.



⑫

SKETCH OF SUSPENSION HOOK.

frame of the window or frame to make a close fit.

Such panels may be used on other windows which are not needed for ventilation.

BITUMINOUS EMULSION

Another very successful treatment for windows where permanent blackout is permissible and when the use of bituminous materials is not objectionable, is to swab a bituminous emulsion on the outside surface of the glass, which must be perfectly clean, and then press muslin, scrim, cheesecloth or even Sisalkraft paper into the sticky emulsion, making certain that the material overlaps the supporting frame, including mullions and muntins, at least four inches, or the width of the framework. Another coat of the bituminous emulsion is swabbed over the material. This treatment gives protection even though the glass is broken for it holds the splinters in place and makes a waterproof barrier for a long period. Details of the use of this emulsion are as follows:

The glass surfaces and the glazing bars, window sash and/or frame should be cleaned to remove all dust, grease and foreign matter. Do not apply the coating on wet or frosted surfaces. The coating may be either brushed or sprayed on the surfaces. Do not attempt to spray coating that contains any fiber unless suitable spraying equipment is used.

FIRST COATING

The glass surface, glazing bars, window sash and/or frame should be covered with a coat of fire retardant asphalt coating on the basis of about 1 gallon per 100 to 150 square feet of surface. Coating should extend beyond the glass surface onto the sash not less than 4 inches or the width of the frame member in the sash or the window frame if a membrane is to be used. This asphalt coating may conform to either of the following specifications:

ASPHALT SOLVENT COATING SPECIFICATION

Softening point solid asphalt—Minimum 160° F.
Recovered solvent—Initial boiling point not less than 250° F. and a dry point of not over 450° F.
Slide test—When the coating is applied $\frac{1}{16}$ inch thick on a panel of sheet metal or glass with a thread placed in the coating 1 inch from the bottom edge and parallel to the edge and the specimen hung vertically with the thread down for 4 hours at an air temperature of 140° F. and then cooled, there shall be no slippage downward of the thread.

Minimum asphalt content—50%.

Maximum fiber or filler content—Not over 19%.

Viscosity reducing agents and resin to prevent jellation—Not over 5%.

Solvents—Balance.

CAUTION: Keep open flames away from this material when applying and until dry.

ASPHALT COLLOIDAL CLAY EMULSION COATING SPECIFICATION

Softening point not less than 105° F.

Flash point—Minimum 500° F.

Asphalt content—Minimum 47%.

Water content—Minimum 48%.

Mineral Colloid—5%.

Asphalt colloidal clay emulsions, after drying, shall produce a film or coating that is not soluble in water.

MEMBRANE

While the first coat of asphalt coating is still tacky lay into it the membrane. This membrane is to be laid in one piece over the glazed surface, glazing bars and window sash and/or frame, so that the lap on the sash or frame is at least 4 inches or the width of the sash or frame member. In this way the membrane ties the glass more rigidly to the glazing bars, sash and/or frame. The membrane should be firmly imbedded into the coating; lay loosely and do not stretch the material; press down all wrinkles. The membrane should be an open weave cloth such as tobacco cloth, heavy cheese cloth, etc. A suitable specification for the cloth is:

Approximate weight per square yard—1.23 oz.

Approximate thread count—32 warp x 28 filling.

Approximate tensile strength—18.8 lbs. warp and 9.8 lbs. filling.

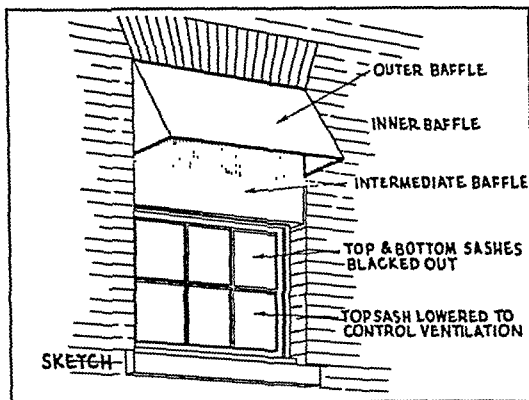
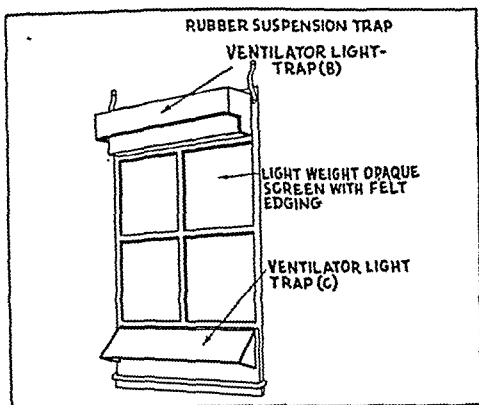
If windows are made up of small panels where the glazed area of each individual pane is not over 120 square inches the membrane may be done away with and only one coat of asphalt relied on to help keep the glass from splintering. The membrane materially helps prevent excessive splintering and provides a safer job.

SECOND COATING

If the membrane is used it should be covered with another coat of asphalt coating over the entire surface of the cloth at the rate of about 100 to 125 square feet per gallon.

An asphalt coating material can be removed later on by means of a putty knife and kerosene as a solvent.

When asphalt coating is applied directly to the outside glazed surface, the inside surface is



black. If it is desired to brighten up the interior of the building to reflect more artificial lighting within, slurry of lime, whitewash or casein paint may first be applied to the outside glazed surface and allowed to dry before applying the first coat of asphalt. Such practice permits washing the inside glazed surface to obtain better light reflecting qualities; also, it is a little easier to remove the coating when it becomes necessary to do so.

Whitewash and the like can also be applied to the inside glazed surface if it is not felt necessary to apply it on the outer surface of the glass.

PAINT IS UNSATISFACTORY

It should be noted that blacking out glass panels and windows by merely painting them with opaque paint is not recommended. A painted window may crack as a result of uneven expansion during changes in the weather and, furthermore, such treatment offers no protection in case of an actual air raid.

WINDOW LIGHT TRAPS

Windows needed for ventilation may be blacked out effectively with the use of light traps. The diagrams at the top of this page explain the construction of such traps.

SKYLIGHTS

Skylights present a difficult problem. They may be treated by one of the following methods:

1. Install shutters which may be opened to permit light to enter the pharmacy during the day but which may be closed quickly.

2. Remove all glass and replace with wall-board or plywood panels.
3. Cover the inside of the skylight with $\frac{1}{2}$ -inch woven wire mesh or hardware cloth covered with opaque textile material or black paint.
4. The bituminous emulsion treatment previously described.

Glass in skylights presents a serious hazard during bombings so it would be the part of wisdom to remove it and use panels of plywood, wallboard or a glass substitute which will admit light. Such substitutes as laminated scrim and similar materials that have been used for years on chicken farms are satisfactory.

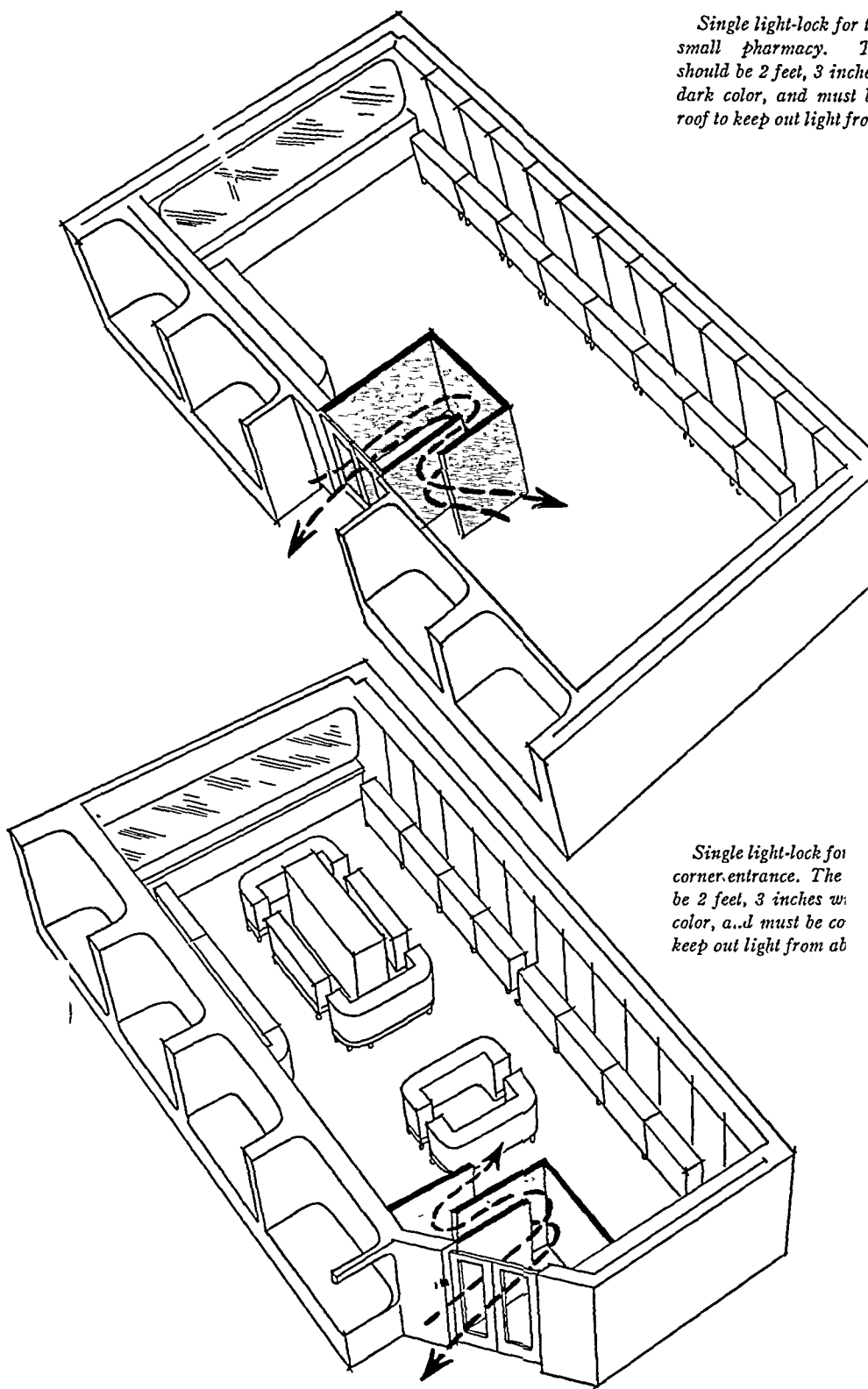
DOORWAYS

The biggest problem in blacking out a retail pharmacy is to treat the doorway in such a way as to permit customers to enter and leave and yet allow no light to be seen from the street.

The only satisfactory method of treating a doorway not equipped with revolving doors is through the use of a light-lock. Revolving doors, with the glass completely obscured, make perfect light-locks. In the absence of revolving doors, a light-lock consisting of a covered passage which makes two right angle turns must be constructed. The walls can be of dark-colored plywood, wallboard, lumber or textile materials which are readily available. They may be permanent but it is preferable to have them constructed in such a way that they can be folded up out of the way when not needed.

The diagrams on the following pages show suggested single and double light-locks.

Single light-lock for the d
small pharmacy. The
should be 2 feet, 3 inches w
dark color, and must be c
roof to keep out light fro



Single light-lock for
corner entrance. The
be 2 feet, 3 inches w
color, and must be co
keep out light from ab

PHENOL-CAMPHOR ATHLETE'S FOOT MIXTURES MAY BE DISPENSED ONLY ON PRESCRIPTION SAYS F. D. A.

Mixtures of equal parts of phenol and camphor, or of three parts of phenol with one part of camphor, which have been suggested for the treatment of athlete's foot, are capable of causing great injury to the skin and are too dangerous to permit their indiscriminate distribution to the public for self-medication, according to the opinion of the Food and Drug Administration of the Federal Security Agency, Washington, D. C. Such mixtures are considered as "dangerous drugs" for which it is impossible to devise adequate directions for use and warnings against misuse to meet the labeling requirements of the Federal Food, Drug and Cosmetic Act and they may, therefore, be dispensed by the pharmacist only on the prescription of a physician. Even when dispensed on prescription, the Administration believes that they should be labeled with warnings against their use on moist skin and patients should be cautioned to stop their application if the skin shows signs of burning or necrosis.

The phenol-camphor mixtures in question were first described by Dr. Edward Francis, Medical Director (Retired) of the U. S. Public Health Service, Washington, D. C., in the *Journal of the American Medical Association* for December 6, 1941 to apply.

In the May, 1942, issue of *Readings in Pharmacy*, Dr. de Kruif described the mixture.

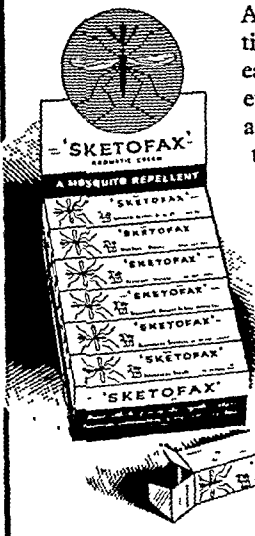
In his article many people have tacitly to prepare them for their use.

In the *Journal of the American Medical Association* for May 9, 1942 (119, (2), 182-183) it was stated that a number of investigations are being conducted to determine the extent of the causticity of the phenol-camphor mixtures and their possible benefits and dangers. In the meantime, the Food and Drug Administration has had its attention called to the matter by an actual case of severe injury resulting from the use of one of the mixtures. The person applied it to a rather large area on the leg, near the ankle, and a necrotic area developed which required several weeks to heal. Dr. Herbert O. Calvery, Chief of the Division of Pharmacology of the Food and Drug Administration, made a study of the mixture and found that the 1 to 1 mixture

on dry skin produced irritation and erythema particularly after repeated applications, and when applied on moistened skin it produced a severe burn with a necrotic eschar after the second application. When the 3 to 1 mixture was applied to dry skin, there was a severe burn even after the first application, and particularly after the second application, followed by a necrotic eschar. When the area was moistened the reaction was much more severe.



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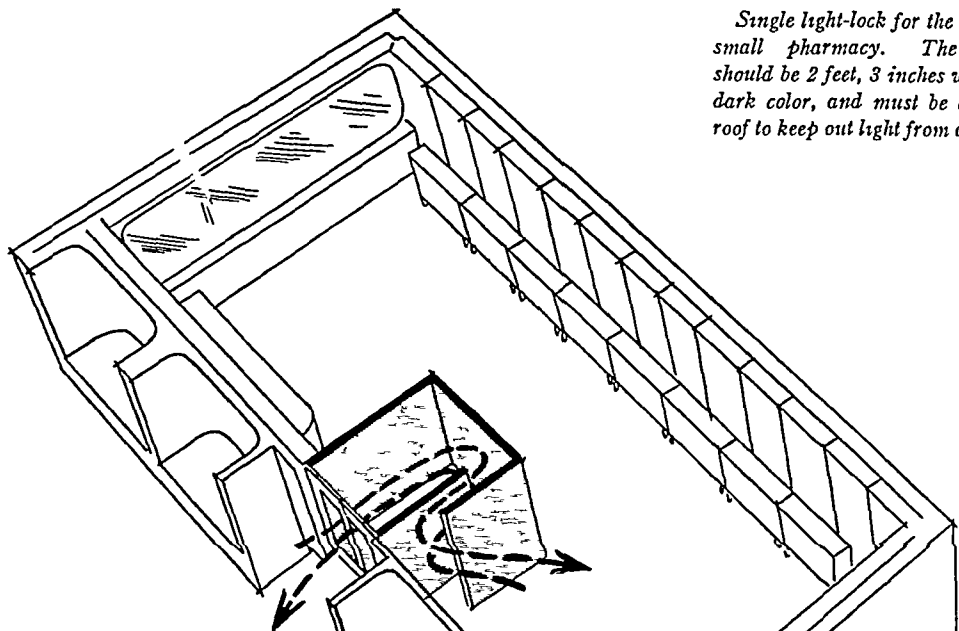


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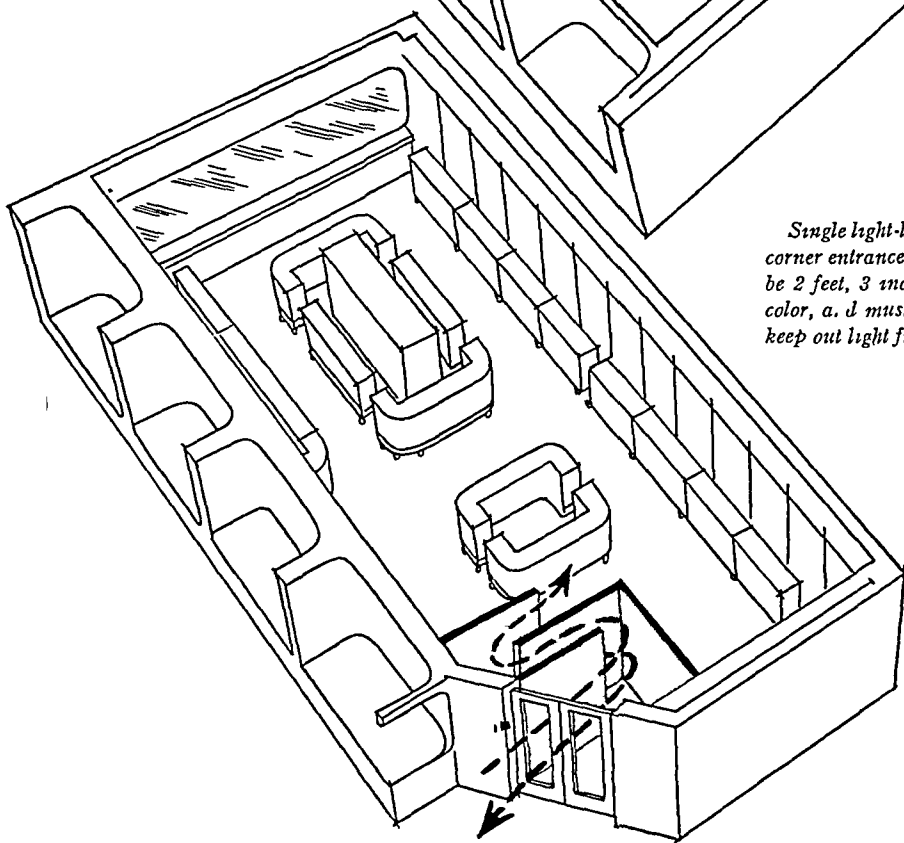
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The phenol-camphor mixtures in question were first described by Dr. Edward Francis, Medical Director (Retired) of the U. S. Public Health Service, Washington, D. C., in the *Journal of the American Medical Association* for December 6, 1941 to apply.

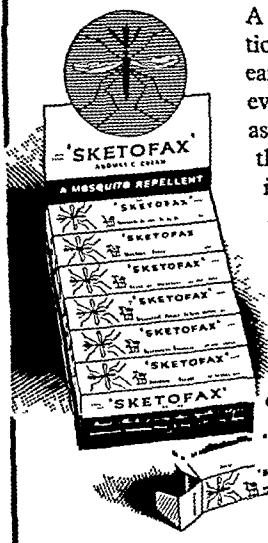
In the May, 1942, issue of *Readings in Pharmacy* Dr. Paul de Kruif described the mixture. It is his article many people have read to prepare them for their use.

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WHAT TO DO WITH USED TIN TUBES

When the Tin Tube Conservation Order (M-115) was issued by the War Production Board a few weeks ago, retailers were told not to dispose of the used collapsible tin tubes which they collected from customers pending further instructions from WPB. These instructions have now been issued, as an amendment to Conservation Order M-115 and they designate the Tin Tube Salvage Institute, 411 Wilson Ave., Newark, N. J., as the only organization authorized to salvage the used tubes.

According to the procedure outlined by the WPB Containers Branch, retailers are to turn over such used tubes as they have collected to their nearest or most accessible wholesaler who will pick them up by truck, if he maintains truck service. If his wholesaler does not have truck service, retailer may ship the tubes collect by the most economical means, *in lots of 5 pounds or more*, to his wholesaler. Wholesalers, chain stores, junk dealers, civic or fraternal organizations and others who have large quanti-

ties of used tin tubes on hand may ship *lots of 100 pounds or more* to the Tin Salvage Institute by freight collect.

ELIXIR OF THIAMIN CHLORIDE A BEVERAGE TREASURY DEPARTMENT RULES

The addition of thiamin chloride, vitamin B₁, to wine or alcoholic solutions does not sufficiently alter the character of such wines or solutions to render them unfit for beverage use, according to the ruling of Stewart Berkshire, Deputy Commissioner of Internal Revenue of the Treasury Department, Washington. Commissioner Berkshire's ruling means that unless the solids content of Elixir of Thiamin Chloride is at least 40 per cent or unless other drugs of recognized therapeutic value are added in sufficient quantity to make the Elixir unfit for beverage use, this preparation may be made only under a rectifier's license and may be sold only under a retail liquor dealer's license.

Journal of the

AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. III, NO. 5

MAY 1942

CONSECUTIVE NO. 10

Practical Pharmacy Edition

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Robert W. Rodman

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EXTENDING PROFESSIONAL SERVICES

CONVENTION speakers and authors of articles in pharmaceutical journals have long been urging pharmacists to extend the scope of their professional services to physicians and to secure the greater utilization of their professional talents. The advice has been sound but, unfortunately, the speakers and writers have had little to offer other than generalizations and pharmacists have lacked a specific program to achieve the highly desirable objectives which have been pointed out to them. It is not enough to say, "Detail your doctors and show them how you can be of greater service to them"—pharmacists want to know *how*.

With a keen realization of this need on the part of the pharmacist, the Professional Relations Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION announced a new program in last month's issue of this JOURNAL that merits the thoughtful consideration of every pharmacist who is interested in increasing his prescription practice, developing a closer relationship with physicians, enjoying greater recognition as a professional man, and extending his pharmaceutical services beyond their present limits.

The new program is based on the desire of all physicians to keep their treatments of disease up to date, using the newest, most effective drugs, preparations and techniques. There are over one hundred state and national medical journals published in this country to help physicians keep up to date, but it is obviously impossible for the busy doctor to read more than a very few of them each month. The physician in Texas doesn't see the excellent articles published in the

medical journal of the District of Columbia Medical Society; the general practitioner doesn't see the splendid articles appearing in the specialized journals of dermatology or pediatrics and, as a result, they miss a great deal of most useful information.

A considerable portion of the papers published by these medical journals describe the clinical results of the use of various manufacturers' specialties. Every manufacturer studies the reports dealing with his products, bulletins the information to his detail men and in this way physicians generally are advised of the new treatments and new drugs even though they did not see the original papers. Pharmaceutical manufacturers have done an excellent job of disseminating information by this means and most physicians welcome the detail man because they learn something new from him.

So much for the articles in medical journals which deal with specialties, but what about those which involve the use of other types of pharmaceuticals? A great many of the clinical reports deal with solutions, ointments, pastes and mixtures which may be prepared by any qualified pharmacist and, therefore, are not suitable for exploitation as a manufacturer's specialty. A Baltimore dermatologist finds a 10 per cent ointment of ferric chloride an effective preventive against poison ivy; an Army doctor describes a sodium thiosulfate and boric acid foot powder for the control of athlete's foot; a Pennsylvania dermatologist finds that solution of aluminum citrate is superior to Burow's Solution; a U. S. Public Health Service physician develops a sodium

perborate ointment for the prevention of poison ivy; three Pittsburgh dermatologists develop a stainless synthetic coal tar; the Committee on Burns of the Medical Science Division of the National Research Council recommends the use of a water-soluble gel containing 10 per cent of tannic acid and 5 per cent of sulfathiazole—these are typical of the new drugs and preparations which are being reported monthly in the leading medical journals of the United States—drugs and preparations that are available to the physician only if a pharmacist prepares them for him. The doctors in your neighborhood would be interested in that ferric chloride ointment, they would like to use that stainless, synthetic coal tar, and they would like to try aluminum citrate for their wet dressings, but the chances are they didn't see the original articles and they will never know about these new, more effective preparations unless you tell them about them.

Surely here is an ideal opportunity for the pharmacist to render the physician a real service, one he has never had before and one he can obtain from no one else. The pharmacist who undertakes to render such a service is not pursuing a selfish course designed merely to increase his prescription practice. He is performing a vital function in the dissemination of professional information and is enabling the physicians of his community to use more effective, more pleasant medicaments which, in turn, improve the quality of the medical service that the public receives.

Just as it is impossible for the busy physician to read one hundred odd medical journals each month, so it is equally impossible for the busy pharmacist. How, then, is the pharmacist to learn about these new preparations so that he can place them before his physicians? That is where the Association's Professional Relations Committee comes in. Each month it will read every available medical journal published in this country. The Committee will select those preparations which it believes justify the consideration of physicians generally

and will present full information concerning them in this JOURNAL. Every product will be prepared in the laboratories of this ASSOCIATION so that the directions may be depended upon by the pharmacist.

From that point on it is up to individual pharmacists whether or not the information reaches their physicians or is buried in the bottom drawer of their prescription counters. The project is being undertaken and the material will be published merely to give pharmacists *the opportunity* to pass it on to physicians. The Committee is convinced that there are sufficient pharmacists who will be interested in this opportunity to make the effort well worth while.

Will physicians welcome having this type of information made available to them? Will they have a new appreciation of the pharmacists who supply them with this information? Will the pharmacists who render this valuable service to physicians find that their prescription practices reflect a new stimulation? The Committee believes the answer is yes.

Pharmacy in recent years has not enjoyed the full recognition as a profession which many believe it deserves by virtue of the importance of its services, a fact which is attested by the consideration it has received from various governmental agencies, the military services, the allied health professions and the public. Perhaps one answer to the problem is to increase the quantity and quality, and thereby the importance, of the professional services which pharmacists render in the prevention and treatment of disease. The opinions of the public, members of the medical profession and of representatives of governmental agencies regarding the importance of pharmacy are guided more by what the profession does than what it says. It seems reasonable that if pharmacists individually improve the quality of the professional services they render, greater recognition will follow automatically.

The *Productive Detailing* project of this Association's Professional Relations Committee is a step in this direction.

America's First

by DAVID L. COWEN, M.A.

INSTRUCTOR IN HISTORY

RUTGERS UNIVERSITY COLLEGE OF PHARMACY

NEW INFORMATION ON EARLY PHARMACEUTICAL LEGISLATION SHOWS THAT LOUISIANA, NOT SOUTH CAROLINA, ENACTED THE FIRST PHARMACY LAW, ESTABLISHED THE FIRST BOARD OF PHARMACY, AND REGISTERED NATION'S FIRST PHARMACIST

THERE has been little study of legislation pertaining to pharmacy in the United States in the period prior to the War Between the States. The Maisch Report on Legislation, presented to the AMERICAN PHARMACEUTICAL ASSOCIATION in 1868, apparently had covered the field, but this report was incomplete and even inaccurate; some states did not report, some reported incorrectly, and much of the early legislation consequently went unrecorded. Thus, little is known of the attempts to require by law the examination and licensing of apothecaries in the early nineteenth century and the writer has seen no mention in pharmaceutical literature of the earliest, and most successful, set of laws—that of the state of Louisiana.

The following is a list of legislation requiring the examination and licensing of apothecaries before 1861:

- 1808 Territory of Orleans (the state of Louisiana after 1812); Amended in 1816, 1817, 1820, 1840, 1841, 1845; Repealed in 1852.
- 1817¹ South Carolina; Amended in 1828, 1837; Virtually repealed in 1838.
- 1825² Georgia; Amended in 1832, 1836, 1839, 1847, 1861.

- 1832 New York (for New York City only); Amended in 1839.
- 1852 Alabama; Amended in 1861.

LEGISLATION IN LOUISIANA

By far the outstanding enactment in the history of pharmaceutical legislation is the act of the legislature of the Territory of Orleans entitled "An Act Concerning Physicians, Surgeons, and Apothecaries," which was approved on March 23, 1808.³ There is much of interest to the medical historian in this Act,⁴ and unless earlier records are found, it presents three "firsts" in the history of American pharmacy:

1. The requirement of examination and license of apothecaries by a board of examiners.
2. The prohibition of the sale of deteriorated drugs by apothecaries.
3. Restrictions on the sale of poisons by apothecaries.⁵

The first three sections of the Act, embracing these three points, follow:

BE it enacted . . . That no person shall presume to practice, in the Territory of Orleans, as physician, surgeon or apothecary, without first exhibiting satisfactory proof of his having qualified himself as such, by previous studies, which shall be made to appear by a diploma of any university or school in which he may have pursued his studies. The candidate shall exhibit said diploma to the Mayor of the City of New-Orleans, who shall fix on a day, and shall appoint four physicians or surgeons from among the oldest practitioners, whose duty it shall be publicly to examine the candidate, and to give him a certificate of admission, if he should be ad-



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CHAPTER VIII.

AN ACT

Concerning Physicians, Surgeons and Apothecaries.

BE it enacted by the Legislative Council and House of Representatives of the Territory of Orleans, in General Assembly convened, That no person shall presume to practice, in the Territory of Orleans, as

Who may practice.

physician, surgeon or apothecary, without first exhibiting satisfactory proof of his having qualified himself as such, by previous studies, which shall be made to appear by a diploma of any university or school in which he may have pursued his studies. The candidate shall exhibit said diploma to the Mayor of the City of New-Orleans, who shall fix on a day, and shall appoint four physicians or surgeons from among the oldest practitioners, whose duty it shall be publicly to examine the candidate, and to give him a certificate of admission, if he should be admitted; which certificate shall be signed by the four examiners, and by the Mayor, who shall cause the seal of the city to be affixed to the same.

Manner of examining candidates and of granting a certificate.

§ 2. And be it further enacted, That every physician, surgeon or apothecary, who shall sell, or cause to be sold, remedies or drugs, which shall be proved to have been, at the time of selling the same, injured, moulded, discomposed, or sophisticated, shall, on conviction, forfeit and pay the sum of five hundred dollars; to the

Penalty for selling injured medicines.

{ 25 }

benefit of the hospital of the poor of New-Orleans.

Dangerous remedies not to be sold but on application in writing.

§ 3. And be it further enacted, That no physician, surgeon or apothecary, shall sell, give, or in any way, directly or indirectly, part with any suspicious or dangerous remedy, but on application in writing of heads of families of good reputation.—And it shall be the duty of said heads of families, in said application in writing, to state for what use said remedy is wanted, the day on which said remedy was delivered, and receive the name, the quality, and the quantity of said remedy. Said application in writing shall be the only means of defence allowed to the seller, in case said remedy should have been made use of with evil design; and should the seller prove unable to exhibit such a writing for his discharge, he shall be deprived of the exercise of his profession, and shall forfeit and pay the sum of one thousand dollars, to the benefit of the hospital of New-Orleans.

Manner of applying for said remedies.

Penalty for the sellers' failing to comply with these provisions.

§ 4. And be it further enacted, That no salaries shall be exacted but by such physicians, surgeons, and apothecaries as shall have been examined and admitted to conformity with the provisions of this act, or who were residing in the territory of Orleans prior to the passage of said act.—And the physicians applying for salaries, shall exhibit an account written in the language which is spoken by the debtor or his assign; and this account shall mention the year, the month and the day when the phy-

Who may exact salaries.

Manner of applying therefor.

Copy of the Territory of Orleans (Louisiana) Act of 1808, the first legislation in America requiring the examination and licensing of pharmacists.

mitted; which certificate shall be signed by the four examiners, and by the Mayor, who shall cause the seal of the city to be affixed to the same.

2. And be it further enacted, That every physician, surgeon or apothecary, who shall sell, or cause to be sold, remedies or drugs, which shall be proved to have been, at the time of selling the same, injured, moulded, discomposed, or sophisticated, shall, on conviction, forfeit and pay the sum of five hundred dollars, to the benefit of the hospital of the poor of New-Orleans.

3. And be it further enacted, That no physician, surgeon or apothecary, shall sell, give, or in any way, directly or indirectly, part with any suspicious or dangerous remedy, but on application in writing of heads of families of good reputation.—And it shall be the duty of said heads of families, in said application in writing, to state for what use said remedy is wanted, the day on which said remedy

was delivered, and receive [sic] the name, the quality, and the quantity of said remedy. Said application in writing shall be the only means of defence allowed to the seller, in case said remedy should have been made use of with evil design; and should the seller prove unable to exhibit such a writing for his discharge, he shall be deprived of the exercise of his profession, and shall forfeit and pay the sum of one thousand dollars, to the benefit of the hospital of New-Orleans.

Section four of the Act made examination and admission requisite to the collection of fees, and exempted those who were resident of the territory prior to the passage of the Act. In the fifth section there was the provision that remedies administered by a physician should "be paid for at the rate of three hundred per cent. more than if the same had been bought at an apothecary's."

In 1816 the Act was materially improved. This revision (technically the first of its kind passed by a state legislature) was entitled, "An Act prescribing the formalities to be observed in order to obtain the right of practicing physic or the pro-

[26]

sician shall have been called for and employed; it shall define clearly the name and the characteristic symptoms of the disease, the detail of the remedy (whether simple or compound), the order in which said remedies were administered, how and with what drugs said remedy was composed; and the price claimed for every particular remedy, shall be added to every article of the account, which shall not be allowed but upon such conditions.

Price of remedies
 5. And be it further enacted, That the remedies thus administered by every physician and surgeon, shall be paid for at the rate of three hundred per cent. more than if the same had been bought at an apothecary's. provided, however, it be not in evidence that the remedies were useless, not convenient or too freely used for the mentioned disease; in which case the debtor may apply for a diminution of the account; and, in other cases, a decision shall be had by three physicians or surgeons, two of whom shall be appointed by the debtor and one by the physician.

Proviso
 Fee for verbal consultations
 6. And be it further enacted, That verbal consultations, made at the house of the sick person, shall be charged four dollars, to be received by every consulting physician, not including the visit or journey; but in case of such consultations, the family physician shall not be entitled to the sum allowed to the other consulting physician, he shall have a right only to the payment of his visit

[27]

Free for visits.

Visits made in the city shall be paid at the rate of four bits for each visit. Visits in the suburbs shall be paid at the rate of one dollar. But if the physician resides in the suburbs, the visit shall be paid no more than four bits.

Such visits only shall be paid as shall have been solicited. Every journey in the country shall be paid at the rate of four bits per league, both going and coming; provided, all visits and journeys during the night shall be paid double, in the whole extent of the territory.

THOS. URQUHART,

Speaker of the House of Representatives.

J. FOYDRAS,

President of the Legislative Council.

APPROVED, March 23, 1808.

WILLIAM C. C. CLAIBORNE,
 Governor of the Territory of Orleans.

CHAPTER X.

AN ACT

Erecting the Carahula into a distinct Parish

BE it enacted by the Legislative Council and House of Representatives of the Territory of Orleans, in General Assembly convened, That from and after the passing of this act, all that part of the county of Rapide, known by the name of the Carahula settlement, is hereby divided into a separate and distinct parish, that is to say, all that part of the said county of Rapide

fession of apothecary within the State of Louisiana, and for other purposes."6 The power of appointing the medical board was given to the governor of the state, and, most important, to the board of four physicians was added one apothecary. Certainly if the board created by the 1808 Act does not lift the title of the "First American Board of Pharmacy"7 from the South Carolina board of 1818, this board—legally required to contain a pharmacist—is entitled to that distinction.

The Act further provided that an applicant could petition the Mayor of New Orleans who was to summon the board. The examination of candidates was to be held in the presence of the mayor and two aldermen. Only the agreement of a majority of the board was necessary to grant "a certificate of examination and reception" which was to be recorded in the clerk's office of the applicant's parish. Extremely important to the success of the legislation were the provisions for enforcement. The attorney general of each district was required to prosecute offenders.

First offenders could be fined up to \$100; for succeeding offenses the fine could be \$200 plus not more than one year in prison. Those who had complied with the Act of 1808 were exempted from the new Act.

The difficulty of having all examinations held in New Orleans was overcome by a supplementary Act approved on February 18, 1817.8 An additional board was created containing six members for a "Western District" and the New Orleans board retained for an "Eastern District." For the first time a fee was to be charged for each license, set by the statute at \$20. More significantly, the Act required that the apothecary on the Eastern Board "shall only take part to the examination of apothecaries." Technically this provision meant that a distinct board was instituted for the examination of apothecaries. However, this provision did not prevent the apothecary A. Delpeuch from acting as secretary of the Eastern Board in 1838.9 Mr. Delpeuch has momentarily the distinction of being the first pharmacist to have served on a state pharmacy

board by virtue of his being a pharmacist;¹⁰ however, further research may reveal the name of a predecessor or predecessors between 1816 and 1838.

The next supplementary Act, in 1820,¹¹ weakened the power of the boards by directly admitting to practice any candidate "of good moral character" presenting a diploma of Doctor of Medicine. However, the president of the board was required to inform the attorney general of unlicensed practitioners, and the attorney general was obliged to prosecute the offenders. The presence of the mayor and aldermen at the examinations in New Orleans was no longer needed and applications were now to be made to the president of the board.

An entirely new provision appeared in the 1820 Act: "*Nothing. . . shall be so construed as to prevent any person residing in the county of New Orleans from selling medicines which shall have been purchased from any legal apothecary, and which have been plainly labelled by said apothecary.*" This provision shows a better appreciation of legal nicety than its only predecessor—a similar provision in the South Carolina Act of 1817.

For twenty years the law remained unchanged. In 1840 still another supplement was passed.¹² It is of interest to pharmacy particularly in that it added another apothecary to the Eastern Board. The boards were permitted to examine those physicians who were not graduates of the local medical college and an aggrieved candidate could demand a public hearing before the same examiners. The penalty provisions were changed: The fine for second offenses could go to \$500 and the imprisonment penalty was discarded. It was made the duty of the medical board to sue for fines, and the proceeds were made payable to the Charity Hospital at New Orleans. In 1845 this last provision was changed so that anyone was permitted to institute suit against an offender.¹³

Louisiana, however, was too far in advance of the rest of the country. At last that state too succumbed to the freedom in medical and pharmaceutical practice prevailing in the rapidly growing nation. In 1852 the legislature decided that a diploma from a medical college was enough to practice medicine, "allopathic or otherwise," surgery or midwifery, "without having to procure any further license." All contrary acts were repealed.¹⁴ The boards thus came to an end, and with them the licensing of apothecaries, although

they were not specifically mentioned in the 1852 Act.

LEGISLATION IN SOUTH CAROLINA

The first state of English origin to license the apothecary was South Carolina. In 1817 an act whose primary purpose was "to regulate the Licensing of Physicians to practise,"¹⁵ provided also:

That no apothecary within this state, shall be hereafter permitted to vend or expose to sale, any drugs or medicines without previously obtaining a license to do so from the Medical Society of South Carolina, or Board of Physicians created by this act. And every apothecary so vending or selling drugs or medicines contrary to the provisions of this act, shall be liable to all the penalties imposed by this act [maximum of \$500 and 2 months imprisonment] on physicians and surgeons practising without a license: *Provided*, That nothing herein contained, be construed to prevent merchants or shop-keepers from vending or exposing to sale medicines already prepared.

And . . . That the Medical Society of South Carolina, and the board of physicians created by this act, shall have the power to examine any apothecary who may apply to them for a license, touching their knowledge of drugs and pharmacy, and finding such person qualified, shall grant such license, and shall receive therefor the same fees as provided in this act for license to practise medicine and surgery [\$5 for examination and \$5 for the license].

There are other noteworthy features of the Act. Two boards were created, one being the Medical Society at Charleston, and the other a group of thirty-four physicians at Columbia who were enumerated in the Act. However, only three members of a board were necessary to form a quorum. Most significant was that "every apothecary now in this state" was given twelve months in which to comply, while all physicians already in practice were exempted.

The provision in the portion quoted at length in reference to the selling by shopkeepers of "medicines already prepared" was probably the first such enactment in the United States. It is not without its modern counterparts.

In 1828 a diploma from a medical school or examination by the faculty of the Medical College of Charleston was made the requisite for the granting of a license by the medical boards.¹⁶ No mention of apothecaries was made in this Act, but in 1833 they were specifically included when

NAME	Date of License	NAME	Date of License	NAME	Date of License	NAME	Date of License	NAME	Date of License
A. P. ...	1816	A. P. ...	1816	A. P. ...	1816	A. P. ...	1816	A. P. ...	1816
B. P. ...	1816	B. P. ...	1816	B. P. ...	1816	B. P. ...	1816	B. P. ...	1816
C. P. ...	1816	C. P. ...	1816	C. P. ...	1816	C. P. ...	1816	C. P. ...	1816
D. P. ...	1816	D. P. ...	1816	D. P. ...	1816	D. P. ...	1816	D. P. ...	1816
E. P. ...	1816	E. P. ...	1816	E. P. ...	1816	E. P. ...	1816	E. P. ...	1816
F. P. ...	1816	F. P. ...	1816	F. P. ...	1816	F. P. ...	1816	F. P. ...	1816
G. P. ...	1816	G. P. ...	1816	G. P. ...	1816	G. P. ...	1816	G. P. ...	1816
H. P. ...	1816	H. P. ...	1816	H. P. ...	1816	H. P. ...	1816	H. P. ...	1816
I. P. ...	1816	I. P. ...	1816	I. P. ...	1816	I. P. ...	1816	I. P. ...	1816
J. P. ...	1816	J. P. ...	1816	J. P. ...	1816	J. P. ...	1816	J. P. ...	1816
K. P. ...	1816	K. P. ...	1816	K. P. ...	1816	K. P. ...	1816	K. P. ...	1816
L. P. ...	1816	L. P. ...	1816	L. P. ...	1816	L. P. ...	1816	L. P. ...	1816
M. P. ...	1816	M. P. ...	1816	M. P. ...	1816	M. P. ...	1816	M. P. ...	1816
N. P. ...	1816	N. P. ...	1816	N. P. ...	1816	N. P. ...	1816	N. P. ...	1816
O. P. ...	1816	O. P. ...	1816	O. P. ...	1816	O. P. ...	1816	O. P. ...	1816
P. P. ...	1816	P. P. ...	1816	P. P. ...	1816	P. P. ...	1816	P. P. ...	1816
Q. P. ...	1816	Q. P. ...	1816	Q. P. ...	1816	Q. P. ...	1816	Q. P. ...	1816
R. P. ...	1816	R. P. ...	1816	R. P. ...	1816	R. P. ...	1816	R. P. ...	1816
S. P. ...	1816	S. P. ...	1816	S. P. ...	1816	S. P. ...	1816	S. P. ...	1816
T. P. ...	1816	T. P. ...	1816	T. P. ...	1816	T. P. ...	1816	T. P. ...	1816
U. P. ...	1816	U. P. ...	1816	U. P. ...	1816	U. P. ...	1816	U. P. ...	1816
V. P. ...	1816	V. P. ...	1816	V. P. ...	1816	V. P. ...	1816	V. P. ...	1816
W. P. ...	1816	W. P. ...	1816	W. P. ...	1816	W. P. ...	1816	W. P. ...	1816
X. P. ...	1816	X. P. ...	1816	X. P. ...	1816	X. P. ...	1816	X. P. ...	1816
Y. P. ...	1816	Y. P. ...	1816	Y. P. ...	1816	Y. P. ...	1816	Y. P. ...	1816
Z. P. ...	1816	Z. P. ...	1816	Z. P. ...	1816	Z. P. ...	1816	Z. P. ...	1816

the trustees and the faculty of the College were given the right to license as well as to examine.¹⁷

In 1838 the basic Act of 1817 was emasculated. All the penalty provisions, relating to both physicians and apothecaries, were repealed.¹⁸ Although technically the provision requiring the licensing of apothecaries was still in effect, and was considered so in 1861,^{18a} the removal of the penalty provisions had the effect of negating the entire legislation.

LEGISLATION IN GEORGIA

In 1825 the Georgia legislature passed a statute that repeated the South Carolina Act of 1817 almost word for word.¹⁹ Two significant changes relative to apothecaries were made, however. One was the specific exception of licensed physicians from the requirements that only licensed apothecaries could sell drugs. The other, in contrast to the South Carolina provision that made the act operative on all the apothecaries in the state, provided that the Act was "not to operate against any . . . who now are . . . engaged in the sale of drugs and medicines."

This 1825 Act was entitled "An Act to regulate licensing of Physicians to practice in this state." In 1832 an act was passed whose sole purpose was to change this title to, "An Act to regulate the licensing Physicians in this State, to prevent Apothecaries vending and exposing to sale

The first published list of registered pharmacists in the United States as it appeared in Gibson's Guide and Directory of the State of Louisiana and the cities of New Orleans and Lafayette in 1838.

within this State, drugs and medicines, without a license from the Board of Physicians, and to prevent Merchants, shop keepers and all other persons from compounding and preparing drugs and medicines, or either."²⁰ Perhaps this change was made to soothe the ruffled pride of the state's apothecaries; in any case it demonstrates that the licensing of apothecaries was not incidentally and casually included in a medical law.

In 1836²¹ an act was passed that repealed all the penalty provisions of the 1825 Act and provisions of other legislation that penalized practitioners of Thomsonian medicine. However, in 1839,²² and then again in 1847,²³ the Act of 1825 was declared to be "revived and . . . in full force and operation." These Acts each named new medical boards and made allowances for Thomsonian practitioners.

This legislation was embodied in the Georgia Code of 1861.²⁴ Druggists practicing before December 24, 1847 were exempt and merchants could sell patent medicines or those "legally warranted" by a druggist. However, the penalties were increased to \$1000-\$5000 for the first

board by virtue of his being a pharmacist;¹⁰ however, further research may reveal the name of a predecessor or predecessors between 1816 and 1838.

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The first state of English origin to license the apothecary was South Carolina. In 1817 an act whose primary purpose was "to regulate the Licensing of Physicians to practise,"¹⁵ provided also:

That no apothecary within this state, shall be hereafter permitted to vend or expose to sale, any drugs or medicines without previously obtaining a license to do so from the Medical Society of South Carolina, or Board of Physicians created by this act. And every apothecary so vending or selling drugs or medicines contrary to the provisions of this act, shall be liable to all the penalties imposed by this act [maximum of \$500 and 2 months imprisonment] on physicians and surgeons practising without a license: *Provided*, That nothing herein contained, be construed to prevent merchants or shop-keepers from vending or exposing to sale medicines already prepared.

And . . . That the Medical Society of South Carolina, and the board of physicians created by this act, shall have the power to examine any apothecary who may apply to them for a license, touching their knowledge of drugs and pharmacy, and finding such person qualified, shall grant such license, and shall receive therefor the same fees as provided in this act for license to practise medicine and surgery [\$5 for examination and \$5 for the license].

There are other noteworthy features of the Act. Two boards were created, one being the Medical Society at Charleston, and the other a group of thirty-four physicians at Columbia who were enumerated in the Act. However, only three members of a board were necessary to form a quorum. Most significant was that "every apothecary now in this state" was given twelve months in which to comply, while all physicians already in practice were exempted.

The provision in the portion quoted at length in reference to the selling by shopkeepers of "medicines already prepared" was probably the first such enactment in the United States. It is not without its modern counterparts.

In 1828 a diploma from a medical school or examination by the faculty of the Medical College of Charleston was made the requisite for the granting of a license by the medical boards.¹⁶ No mention of apothecaries was made in this Act, but in 1833 they were specifically included when

offense and a like fine plus six months' imprisonment for the second offense. It is noteworthy that the penalty for license violations by physicians was but \$500 for the first offense, and but two months' imprisonment for the second.

The early nineteenth century was replete with struggles among the various medical systems. Perhaps unique in pharmaceutical history was the extension of those struggles to include the apothecary. In 1847 the Georgia legislature passed an act called, "An Act to establish a Botanico-Medical Board of Physicians . . . and for the better regulation of the Botanic or Thomsonian Practice of Medicine."²⁵ In it were these provisions:

. . . no Botanic or Thomsonian apothecary within this State unless he be a graduate [of the local Thomsonian medical school] . . . or a licensed Botanic or Thomsonian physician, shall be permitted to vend or expose to sale Botanic or Thomsonian medicines, without previously obtaining a license from the Board created by this act. . . . Provided that nothing herein be so construed as to prevent merchants or shop-keepers from vending or exposing to sale Botanic or Thomsonian medicines already prepared.

. . . the Board of Physicians created by this act shall have the power to examine any apothecary who may apply to it for a license, touching their knowledge of drugs and pharmacy, and on finding such persons qualified shall grant such license . . .

The writer does not know if there actually were "Botanic or Thomsonian apothecaries." Perhaps the provision was added merely to demonstrate the equality of the Thomsonian group with the allopaths. This Botanic Board was still in existence with the same powers in 1854²⁶ and the Code of 1861 still gave to a "Board of Physicians of the Reformed Practice of Medicine" powers equal to those of the allopathic board, including the licensing of apothecaries.²⁷ This was apparently the old Botanic Board under a new name.²⁸

LEGISLATION IN ALABAMA

Alabama was the last of the states that required the licensing of apothecaries before the War Between the States. The legislation apparently was not passed as a separate act of the legislature, but found its way into the Code of Laws passed in 1852. Section 980 of this Code²⁹ provided:

All druggists in this state are required to obtain a license to deal in drugs from the medical board of the county in which such business is pursued; or if there is no board in such county, then from the medical board established in the nearest county thereto. . . .

Violation of this provision was made a misdemeanor subject to a fine of not less than \$100 and barred the offender from collecting any business obligations by legal processes.

In 1861 an amendment made it possible for the candidate to obtain his license from any "medical board in this State, or from the Medical College of Alabama."³⁰

LEGISLATION IN NEW YORK

The New York legislation differed from that of the other four states in that it was not statewide in its application. In 1832 a diploma from a college of pharmacy or a license granted after examination by the censors of a county medical society, was made necessary for the "practise of the business of an apothecary in the city of New-York" after 1835.³¹ The penalty imposed was \$50 to be sued for by the New York College of Pharmacy for its own benefit. In 1839 the act was amended.³² The district attorney was made the prosecuting agent and the proceeds of the fines, raised to \$51, were made payable to the New York Dispensary. Neither act affected pharmacists already in practice.

II

This description of early legislation brings up a number of questions important to the history of pharmacy. Did these laws meet with any degree of success? Why were not such laws more efficient and more common? Why were such laws passed? Conclusive answers to these questions are, of course, impossible, but there is much of interest in making the attempt.

SUCCESS OF THE LEGISLATION

As it would appear from the amount of legislation alone, the most successful application of the laws was to be found in Louisiana. In South Carolina, only one record has been found of an examination and licensing of an apothecary.³³ However, the effect of the 1817 Act must have been salutary, for after the repeal of the penalty provisions in 1838, a contemporary complained that, "Apothecary fancy stores multiplied ad infinitum."³⁴

In Georgia there is no record before 1868, when J. M. Clark, a pharmacist and a member of the Georgia medical board, reported that "few come forward for examination and to procure license to practice pharmacy" and that he knew of "but five licentiates."³⁵ Of course further research may reveal that there were others licensed between the years of 1825 and 1868.

No early record of a licensed apothecary in Alabama has yet come to light. There is, however, proof of a negative sort that there was some attempt to enforce the law in that state. In 1861 the legislature passed "An Act For the relief of Robert E. Harwood and William E. Pearson,"³⁶ which provided that:

Robert E. Harwood and William E. Pearson, druggists, doing business in Gainesville, in this State, under the firm of Pearson & Harwood, be and they are hereby relieved from all the penalties and disabilities they may have incurred under section 980 of the Code of this State, previous to the passage of this act.

... all provisions of this act shall inure to the

benefit of William J. Nichols, druggist in the town of Livingston, Alabama.

Obviously the druggists involved had not procured the necessary licenses and were jeopardized thereby. There is also the indication that they were expected to comply with the law thereafter, for no license to practice in the future is conveyed by this Act. The legislature could have granted such license had it intended to: a decade earlier it had granted authorizations "to practice medicine" to a number of petitioners.³⁷

It is amusing that in 1868 the Secretary to the Governor reported that "The statute books of Alabama are entirely silent upon the subject of pharmacy."³⁸ Yet not only was the legislation of 1852 and 1861 included in the Codes of 1867³⁹ and 1876,⁴⁰ but laws regulating the sale of poisons by "an apothecary or druggist" had been passed in 1835⁴¹ and 1841.⁴² Thus the Secretary's report becomes an interesting commentary on his times.

(To be continued in June)

NOTES AND REFERENCES

1. Although not included in E. Kremers and G. Urdang, *History of Pharmacy* (Philadelphia, 1940), under their data on "Passage of State Pharmacy Laws," pp 200-201, the South Carolina Act of 1817 is discussed by them, p 166.
2. Kremers and Urdang note Georgia acts of 1826 and 1847, p. 375, fn 16. The former year should be 1825, not 1826.
3. *Acts Passed at the First Session of the Second Legislature of the Territory of Orleans* (New Orleans, 1808), pp 24-31.
4. Besides examination and licensing of physicians, the act required particularization of physicians' bills, and differentiating between consultants and family physicians, set up limits on physicians' fees.
5. The earliest record of legal restrictions on the sale of poisons and deteriorated drugs is found in the decree of the Spanish Governor of Louisiana of Feb 12, 1770. This, however, restricted the activity only of surgeons. D C McMurtie, "A Louisiana Decree of 1770 Relative to the Practice of Medicine and Surgery," *New Orleans Med. and Surg. Jour.*, 86 (July 1933), 10.
6. *Acts Passed at the Second Session of the Second Legislature . . . of Louisiana* (New Orleans, 1816), pp 84-86.
7. Cf. J. H. Hoch, "The First American Board of Pharmacy," *Amer Jour Pharm.*, 104 (1932), 752.
8. *Acts Passed at the First Session of the Third Legislature . . . of Louisiana* (New Orleans, 1817), pp 90-94.
9. *Gibson's Guide and Directory of the State of Louisiana and the Cities of New Orleans and Lafayette* (New Orleans, 1838), p. 269.
10. Joseph Johnson, "wholesale druggist" and one-time partner in a "drug and apothecary business," held his position on a South Carolina Board of 1818 by virtue of the fact that he was a physician and held an M.D. degree. Cf. Kremers and Urdang, p 166.
11. *Acts Passed at the Second Session of the Fourth Legislature . . . of Louisiana* (New Orleans, 1820), pp 30-32.
12. *Acts Passed at the Second Session of the Fourteenth Legislature . . . of Louisiana* (New Orleans, 1840), pp 99-101.
13. *Acts of the First Session of the Seventeenth Legislature . . . of Louisiana* (New Orleans, 1845), p 68.
14. *Acts Passed by the Fourth Legislature of Louisiana* (New Orleans, 1852), p 103.
15. *Acts and Resolutions of the General Assembly of the State of South Carolina, 1817* (Columbia, 1818), pp 30-34.
16. *Statutes at Large of South Carolina* (Columbia, 1839), Vol 6, p. 367.
17. *Ibid.*, p. 497.
18. *Ibid.*, p. 597.
- 18a. J. L. Pettigru, *Portion of the Code of Statute Law Submitted to the General Assembly* (Charleston, 1861), p. 293, contained the provision that the Medical College of the state had the power and authority to grant licenses to apothecaries. The 1833 Act was cited as authority.
19. *Acts of the General Assembly . . . of Georgia, 1825* (Milledgeville, 1825), pp 126-127.
20. *Acts of the General Assembly . . . of Georgia, 1832* (Milledgeville, 1833), p 131.
21. *Acts of the General Assembly . . . of Georgia, 1836* (Milledgeville, 1837), pp 171-172.
22. *Acts of the General Assembly . . . of Georgia, 1839* (Milledgeville, 1840), pp 187-188.
23. *Acts of the State of Georgia, 1847* (Milledgeville, 1848), pp 237-238.
24. *Code of the State of Georgia* (Atlanta, 1861), pp 260-262.
25. *Acts of the State of Georgia, 1847* (Milledgeville, 1848), pp 234-237.
26. *Acts of the General Assembly . . . of Georgia, 1853-1854* (Savannah, 1854), p 502.
27. *Code of the State of Georgia* (Atlanta, 1861), pp 261-262.
28. Although it is not certain which was the "reformed" group, the earlier Thomsonian board apparently was the only non-allopathic board in existence when the Code was compiled. An Eclectic board did not come into existence until the same day on which the act legalizing the Code was passed—Dec 19, 1861.
29. *Code of Alabama* (Montgomery, 1852), p 234.
30. *Acts of the General Assembly of Alabama, 1861-1862* (Montgomery, 1862), p 15.
31. *Laws of the State of New York* (Albany, 1832), p 566.
32. *Laws of the State of New York* (Albany, 1839), pp 57-58.
33. Hoch, *op cit*.
34. "Report on . . . Medical Legislation," *Trans. Med Soc N Y*, 6 (1844-1846), Appendix, p 42.
35. *Proc A Ph A*, 16 (1868), 336.
36. *Acts of the General Assembly of Alabama, 1861-1862* (Montgomery, 1862), pp 261-262.
37. *Acts of the General Assembly of Alabama, 1851-1852* (Montgomery, 1852), pp 487, 495.
38. *Proc A Ph A*, 16 (1868), 366.
39. *Revised Code of Alabama* (Montgomery, 1867), p 311.
40. *Code of Alabama, 1876* (Montgomery, 1877), p 461.
41. *Acts of the General Assembly of Alabama, 1834-1835* (Tuscaloosa, 1835), p 8.
42. *Acts . . . of the General Assembly of Alabama, 1839-1840* (Tuscaloosa, 1840), p 149.



HYDROGENATED CASTOR OIL AS A BASE FOR ANTISEPTIC OINTMENTS

by GEORGE W. FIERO and TED A. LOOMIS

UNIVERSITY OF BUFFALO, SCHOOL OF PHARMACY

**NEW HYDROPHILIC BASE
MAKES OINTMENTS OF
EQUAL OR SUPERIOR
ANTISEPTIC VALUE TO
THOSE PREPARED WITH
THE OFFICIAL BASES**

THE use of sulfated hydrogenated castor oil as an ointment base was reported in a previous paper.¹ Because it is hydrophilic, it would appear that this base might have better properties than the official bases for antiseptic medications, particularly in cases where the material is soluble in water.

Ointments were prepared using the same strength of active constituent as the official ointments, substituting sulfated hydrogenated castor

oil* for the official base. Water-soluble medications were dissolved or moistened with water before incorporating with the base. In addition to the plain sulfated hydrogenated castor oil, ointments were prepared using a "cream" base of the following formula:**

Diglycol stearate.....	10. Gm.
Sulfate hydrogenated castor oil...	20. Gm.
Petrolatum.....	30. Gm.
Water.....	40. Gm.

The agar cup method² of the Food and Drug Administration was employed as described in a previous paper.³ The medium was adjusted to a pH of about 6.0 to more nearly simulate that of the skin. The extent of free zone surrounding the ointment is an indication of relative antiseptic activity. The test is relative, the extent of free zone varying with the particular culture of

* Manufactured by National Oil Products Co., Harrison, N. J.

** Manufactured by Dermal Products Co., Buffalo N. Y., under name of "Dermalav"

Presented before the Section on Practical Pharmacy, A. P. H. A., Detroit meeting, 1941.

Staphylococcus aureus employed. Data are shown in Table I.

TABLE I.—ANTISEPTIC ACTION OF OINTMENTS

Data expressed in mm. of antiseptic zone surrounding the ointment.

Ointment	Official Base	S. H. C. O.	"Cream Base"
Ammoniated mercury	7	14-15	15-16
Boric acid	0	4	6
Calomel	2.5	3	6
Calomel, colloidal	4-6	4-5	6
Iodine	18	28	...
Phenol	0	0-2	1-2
Pine tar	3-4	4-5	7-8
Red mercuric oxide	5-6	9-11	10
Yellow mercuric oxide	4-5	14-15	8-10
Whitfield	11-12	10-12	15
Whitfield, half-strength	8-9	7-9	13
Proprietary A	7-8	9-10	...
Proprietary B	3-4	5-7	9-10

Since the addition of 25 per cent of petrolatum is recommended to reduce the stickiness of the base, bacteriological tests using this base were performed. The free zone was found to be approximately equal to that of plain sulfated hydrogenated castor oil.

SUMMARY

Sulfated hydrogenated castor oil and an emulsified base consisting of diglycol stearate 10%, SHCO 20%, petrolatum 30% and water 40% were substituted for the official ointment bases in several antiseptic ointments. Bacteriological tests indicate that the antiseptic value of these ointments is equal to, or superior to, the official ointments.

¹ Fiero, G. W., *Jour. A. Ph. A.*, 30 (1941), 145-149.

² Ruehle, G. L. A., *U. S. Department Agr. Circular*, No. 198 (1931).

³ Fiero, G. W., and Loomis, T. A., *Jour. A. Ph. A.*, 29 (1940), 458.

A. PH. A. FEATURES N. F. VII IN EXHIBIT AT A. M. A. CONVENTION

DRUGS AND PREPARATIONS
OF NEW EDITION AND MANY
OF THE PRODUCTS UNDER
STUDY IN LABORATORIES
OF THE ASSOCIATION ARE
DISPLAYED TO PHYSICIANS

TO PHYSICIANS attending the annual convention of the American Medical Association, held in Atlantic City, N. J., June 8-12, the AMERICAN PHARMACEUTICAL ASSOCIATION introduced the Seventh Edition of the National Formulary which became available May 22nd. In a striking exhibit dominated by a five-foot reproduction of the official compendium, the ASSOCIATION called attention to the new pectin pastes, magma of bentonite, chloroformic solution of tar, merbromin, and neocalamine products and other preparations.

One section of the exhibit was devoted to twelve popular vehicles of the N. F. which enable physicians to mask the unpleasant taste of medicines which they prescribe.

A third section of the exhibit displayed a group of the newer drugs and preparations which have been reported in recent issues of medical journals. These included the sodium perborate ointments developed by Dr. Schwartz, of the U. S. Public Health Service, for the prevention of poison ivy; the sulfathiazole ointment used by Dr. Keeney, of Baltimore, for the treatment of skin infections; the tannic acid and sulfadiazine preparations recommended by the Committee on Burns of the Medical Science Division of the National Research Council, for the treatment of burns; the stainless synthetic coal tar developed at the University of Pittsburgh College of Medicine; the aluminum citrate preparations which originated at the Reading, Pa., Hospital; the new emulsion of sulfathiazole being used in Canada for wound dressings; several suggested washable

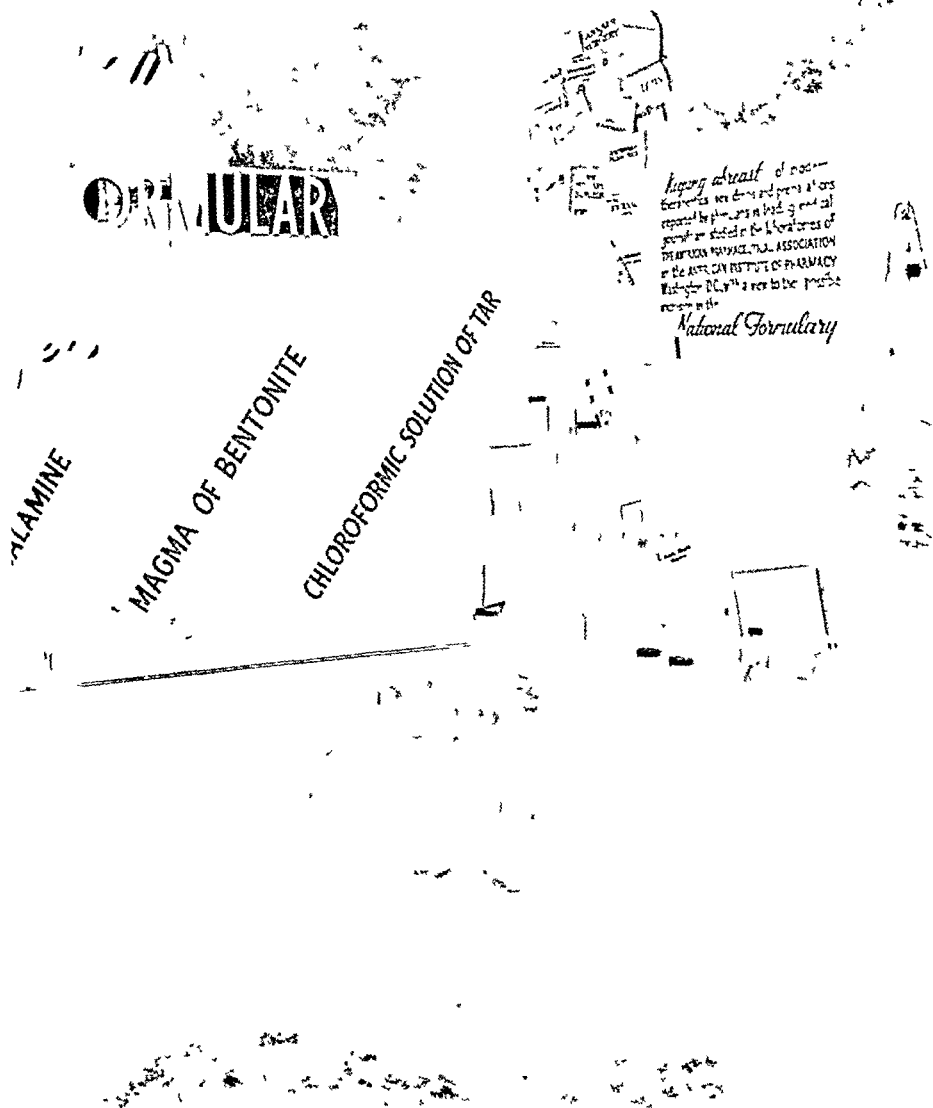
ointment bases; Cajedrol, the new preparation developed at the Johns Hopkins Hospital for the treatment of cystitis and related conditions; and others. All of these preparations have been discussed in this JOURNAL during recent months, and pharmacists, therefore, are familiar with their formulas. The preparations are all under study in the Laboratories of the ASSOCIATION with a view to their possible inclusion in a future edition of the National Formulary. This is a part of the policy of the N. F. to keep abreast of new developments in medicine.

Each physician who visited the exhibit was given a six-page mimeographed summary of the preparations on display, together with their formulas, and more than a thousand of these leaflets were distributed during the week. Among the questions which were asked most often by physicians who visited the exhibit were "Can I obtain the new Neocalamine Lotion from my neighborhood pharmacist now?" and "Does my local pharmacist have the formulas for these new pectin pastes and does he have pectin in stock?" Thus, pharmacists who are interested in developing their prescription services should obtain a copy of the new National Formulary without delay and should purchase the necessary drugs and chemicals to make the new preparations. To be

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sure, the new National Formulary does not become official until November 1, 1942, but the information it contains can be put to good use immediately by the pharmacist. It is fortunate that the convention of the American Medical Association came just a few weeks after the Seventh Edition of the National Formulary was published so that the new pectin pastes, neocalamine products, and other preparations could

be presented while they were still "new" to the average physician. The exhibit has given these new preparations a good start and paved the way for individual pharmacists to detail their neighborhood doctors.

The display was attended by Dr. M. W. Green, of the Laboratory Staff of the AMERICAN PHARMACEUTICAL ASSOCIATION.

MODERN METHODS OF MANUFACTURING MILK OF MAGNESIA

by WILLIAM N. DOUSHKESS

DOUBLE DECOMPOSITION METHOD
OUTMODED BY NEW MAGNESIUM
OXIDE AND PASTE PROCESSES
WHICH MAKE IT PRACTICAL FOR
THE HOSPITAL THAT USES 25
GALLONS OF MILK OF MAGNESIA
A MONTH TO PREPARE ITS OWN

ACCORDING to the United States Pharmacopœia, any magnesium hydroxide suspension containing not less than 7 per cent nor more than $8\frac{1}{2}$ per cent of magnesium hydroxide and meeting the purity specifications may be labeled as Milk of Magnesia. There are no requirements as to the viscosity of the finished product or the amount of settling permissible. To the user of Milk of Magnesia, however, these factors are of real importance. For instance, one person taking Milk of Magnesia desires a product of a very viscous nature which settles very little, and one which, incidentally, mixes very difficultly with water. Another person desires a product which is thin and watery and mixes very easily with water. Some people prefer a Milk of Magnesia with a somewhat pronounced earthy taste. Others desire a product with very little taste. Discussions as to just which type of product is most desirable could fill volumes, and still no decisions would be reached.

If it were possible to obtain a milk of magnesia suspension containing absolutely no magnesium hydroxide in solution—in other words, a true 100 per cent insoluble product—there would really be no taste whatsoever, since a 100 per cent insoluble product leaves no taste. It is simply the soluble salts in contact with the palate that gives taste or flavor to any product, whether it be Milk of Magnesia or some other substance. Magnesium hydroxide is somewhat soluble, and leaves a flat, earthy taste when in contact with the palate. From hundreds of experiments performed, and by

passing hundreds of samples around our plant and getting comparisons as to the desirability of one taste over another, we have had so many different, conflicting reports that no decision could be arrived at as to which product was most desirable. By introducing palatable electrolytes in very small quantities, however, the taste factor could be controlled.

For a number of years the official method of preparing Milk of Magnesia was to precipitate a solution of magnesium sulfate with sodium hydroxide, and wash the resultant magnesium hydroxide until it met the specifications for soluble salts. Experiments performed along this line proved that if one were to wash the product entirely free of soluble salts, the earthy taste would still develop. Therefore, most manufacturers allowed a certain small amount of soluble salts to remain, which was permissible under the U. S. P. standards. Some years ago, however, it was found that magnesium oxide having certain characteristics could be suspended in water, and, due to its enormous affinity for water, hydrated; the resultant product when diluted meeting the specifications of the U. S. P. in every respect.

The U. S. P. was therefore changed to permit the use of magnesium oxide as an official method. Immediately a number of manufacturers of magnesium oxide produced products which on hydration gave all sorts of results as to its viscosity, settling rates, etc. It soon became evident that the products on the market were not satisfactory, and a number of manufacturers concentrated on the production of a magnesium oxide more suitable to the needs of the Milk of Magnesia manufacturer.

It was found that for the hospital pharmacist any magnesium oxide having a good hydration quality was satisfactory for the hospital pharmacist is not necessarily consumer-minded. In other words, hospital pharmacists do not have to worry as to what settling rate or viscosity was obtained since their patients usually take the material suspended in water or milk, and never see the bottle from which the dose comes. The large manufacturer, however, because of the fact

that he had various types of consumers to satisfy, demanded and obtained a much more uniform product than had hitherto ever been produced. A number of old ideas as to the manufacture of Milk of Magnesia necessarily had to be changed.

For instance, at one time it was considered absolutely necessary to mix magnesium oxide with a certain amount of water at a definite temperature, usually about 125° F., stirring at a given speed and for a given length of time to obtain definite viscosities. Later it was found that this was unnecessary, and that the final product obtained after completion of hydration was the same regardless of whether water at 75° or 125° was used. However, it is necessary that the utmost control be maintained as to the amount of water that is added and the length of time of agitation, if one is to obtain uniform results, not in actual quality, but in smoothness and strength of suspension.

One of the largest manufacturers in the country makes his Milk of Magnesia by taking a predetermined amount of water at a temperature of about 70° F. and adding to his mixing tank. Magnesium oxide having a certain hydration rate (which controls the viscosity, etc.) is then added as rapidly as possible and the entire batch mixed for approximately two hours to insure wetting of all particles of the oxide. The mass is then allowed to stand over night. The following morning the batch is made up to the proper strength with water at a temperature above 70° F., and the mass agitated for approximately one hour. The entire batch is then run through a colloid mill into a receiver tank where it is allowed to stand until bottled. Several manufacturers have put out a paste of magnesium hydroxide already prepared to mix with water and stir for a given period of time. Regardless of how the product is made, extreme care should be used that the finished material meets the U. S. P. limits.

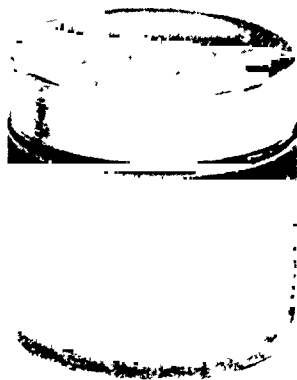
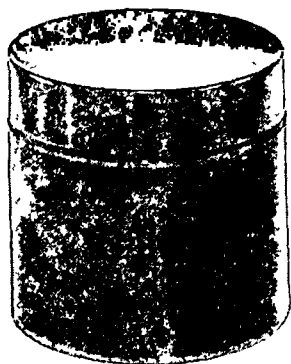
Hospitals having a complete manufacturing department wherein most of their products are manufactured, and having a full-time operator, can easily make their own Milk of Magnesia using the above method. However, due to the necessity of vigilance and control on the impurities in Milk of Magnesia, a number of smaller hospitals are not in a position to manufacture their Milk of Magnesia and be certain that it meets the U. S. P. requirements. In these cases, I recommend strongly that the smaller hospitals purchase their Milk of Magnesia from the standard pharmaceutical manufacturers.

In the case of large hospitals, however, capable of using from 25 to 100 gallons or more of Milk of Magnesia per month, I feel certain that they would save considerable money if they made their own. This can be accomplished as follows:

To approximately 45 gallons of water in a suitable mixing tank, add 30 pounds of magnesium oxide and stir vigorously for 15 minutes to one hour. Allow to stand over night to complete hydration. The following morning, or after approximately 16 hours, add about 18 gallons of water and mix vigorously for about one-half hour, then pass the entire material through a colloid mill to insure maximum dispersion and a smoother product. If it is not desired to use a colloid mill, it is recommended that the mixing and agitation be increased in both steps to at least two to four hours, thus obtaining a better dispersion. As stated above, taste can be controlled by the addition of very minute quantities of various electrolytes such as sodium sulfate, sodium chloride, magnesium sulfate or citric acid.

For practical manufacturing purposes, I do not see how any hospital could economically produce Milk of Magnesia by the old double-decomposition method, since an enormous amount of water is required for washing the product free from soluble salts, and I fully believe that for a hospital manufacturing Milk of Magnesia, the oxide or paste method is the most desirable. Definite strength control and purity control are attained at less expense than by the old method. Development of the present new grades of magnesium oxide have done much to alleviate the headaches formerly found in the Milk of Magnesia manufacture. If reasonable control is observed, there is no reason why a uniform product meeting the requirements of the U. S. P. in every respect should not be obtained by any reliable manipulator.





OFFER PHYSICIANS THIS STAINLESS, SYNTHETIC COAL TAR

PROJECT NO. 2 IN A PROGRAM
ON PRODUCTIVE DETAILING

By CHARLES HALL EVANS

CHAIRMAN, COMMITTEE ON PROFESSIONAL RELATIONS

HERE IS A PRODUCT WHICH ANY PHARMACIST CAN EASILY PREPARE FOR PHYSICIANS TO IMPROVE THE QUALITY OF THE DERMATOLOGICAL PRESCRIPTIONS THEY WRITE

COAL tar is an important drug in the treatment of skin diseases, especially infantile eczema, and it is widely used both by dermatologists and general practitioners. It is antiseptic and anti-pruritic in action, being employed primarily to relieve itching and reduce inflammation.

Despite its wide usage, however, coal tar has certain distinct disadvantages which may be summarized as follows:

1. Coal tar is a by-product of the destructive distillation of coal and different lots vary materially in composition. Thus, the physician is not certain of the therapeutic effects which he may expect when he prescribes it.

2. Coal tar is a dirty, messy material which makes an unsightly ointment and, in addition, permanently stains clothing and bed linen.

Recognizing the need for a preparation that would have the full therapeutic effect of coal tar but would be free from its objectionable qualities, two dermatologists and a pharmacist, Drs. W. H. Guy and F. M. Jacob, and Frank Weber, of the Department of Dermatology of the University of Pittsburgh School of Medicine, undertook a quantitative analysis of a representative sample of crude coal tar. They found that, in addition to therapeutically effective constituents, crude coal tar contains a variety of irritating light oils and a number of inert substances *including approximately 44.7 per cent of pitch*. Substituting petrolatum for the pitch and omitting the other inert substances and irritating oils, the University of Pittsburgh researchers developed the formula for a stainless, synthetic tar which contains quantities of active ingredients equivalent to those contained in the original crude coal tar.

The formula for the synthetic coal tar is:

Anthracene.....	1.10
Naphthalene.....	10.90
Phenanthrene.....	4.00
Carbazole.....	2.30
Picolene, Pyridine, Quinolene, <i>aa</i>	0.58
Phenol.....	0.70
Cresol.....	0.75
Petrolatum, a sufficient quantity, to make	<hr/> 100.0

All of these ingredients may be obtained in small quantities from such companies as the Fisher Scientific Company, 709-719 Forbes St., Pittsburgh, Pa., or Eimer & Amend, New York City.

The synthetic tar may be used in various preparations in the same amounts as crude coal tar. The following formula is one frequently used in the Department of Dermatology of the University of Pittsburgh College of Medicine:

Synthetic tar.....	2
Solution of aluminum acetate.....	5
Wool fat.....	10
Paste of Zinc Oxide with Salicylic Acid (N. F.).....	30

The original article describing this work appeared in *Archives of Dermatology and Syphilology*, 40 (July 1939), 90-91, published by the American Medical Association.

DETAIL THIS PRODUCT

Order the needed ingredients to-day, make up 500 Gm. of the synthetic coal tar, and call on your physicians who treat skin conditions—and this includes general practitioners and pediatricians as well as dermatologists. Point out the advantage of prescribing a product of constant composition which may be depended upon to produce definite results and stress the fact that patients will appreciate the cleanliness of ointments made with the synthetic product. Patients are more faithful in following the physician's directions if the medicament involved is pleasant to use.

TRY THIS NEW PROGRAM

This month and every month the Professional Relations Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION is presenting a new drug or therapy which has been reported in one of the

leading medical journals of the country. These are new preparations which represent advances in the prevention or treatment of disease and they are available to physicians only through the pharmacist who has the initiative and ability to prepare them. Most of the preparations are taken from journals devoted to specialized fields of medical practice and will probably be missed by the general practitioner unless the *pharmacist* brings them to his attention.

This new program is an *individualized* project. It is fundamentally sound and extremely practical, but it places the matter of detailing squarely on the shoulders of the *pharmacist* where it should rest. To the individual who will take this material and do a job with it, the program offers tremendous possibilities in extending professional services, yet it will not embarrass the man who is not interested in detailing doctors, for the physician will learn of these new drugs and preparations only through *individual pharmacists who are interested* and prescriptions for the preparations will naturally be directed to them.

Although our Committee is carrying this program as part of its work, it is really the *pharmacist's own detailing program*. All we can do is dig out the information from medical journals, test the formulas to make sure they are workable, and place the material in the hands of the pharmacist. From that point on it's up to him.

We hope that this new program will be instrumental in encouraging physicians to make a greater use of the professional services which pharmacists are prepared to render. We realize, however, that the individual pharmacist must do his job thoroughly if the program is to go forward. The success or failure of the program rests entirely in the hands of each pharmacist. This is an *individualized* project and whether or not it "clicks" in your community depends upon what you do with the material - - - no one can do it for you. The Committee will welcome the inquiries, criticisms, and suggestions of practicing pharmacists.





NATIONAL FORMULARY ANNOUNCES QUININE REPLACEMENT FORMULAS

**FIFTH INTERIM REVISION
ANNOUNCEMENT AUTHORIZES
OMISSION OF QUININE FROM
N. F. PREPARATIONS; USE
OF WATER IN PLACE OF
ORANGE FLOWER WATER
ALSO TO BE PERMITTED**

BANNED for the duration of the present emergency by the terms of Conservation Order No. M-131 are the following National Formulary preparations containing quinine:

Elixir of Cinchona Alkaloids
Elixir of Glycerophosphates Compound
Elixir of Iron, Quinine and Strychnine
Elixir of Iron, Quinine and Strychnine Phosphates
Pills of Iron, Quinine, Strychnine and Arsenic
Syrup of Hypophosphites Compound

The Committee on National Formulary of the AMERICAN PHARMACEUTICAL ASSOCIATION, with the approval of the Council, has issued an Interim Revision Announcement of replacement formulas for these preparations. These formulas

become official immediately with the publication in this issue of the Practical Pharmacy Edition of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION. The new formulas may be summarized as follows:

Elixir of Glycerophosphates Compound: The quinine hydrochloride has been omitted.

Elixir of Iron, Quinine and Strychnine: This preparation is replaced by a new *Elixir of Iron and Strychnine*.

Elixir of Iron, Quinine and Strychnine Phosphates: This preparation is replaced by a new *Elixir of Iron and Strychnine Phosphates*.

Syrup of Hypophosphites Compound: The quinine has been omitted.

Elixir of Cinchona Alkaloids and Pills of Iron, Quinine, Strychnine, and Arsenic have no replacement formulas and cannot be manufactured for the duration.

ORANGE FLOWER WATER

The Committee on National Formulary has also authorized, by Interim Revision Announcement, the use of water in place of Orange Flower Water in N. F. preparations in which the latter product is an ingredient.

INTERIM REVISION ANNOUNCEMENT NO. 5. NATIONAL FORMULARY,
SIXTH EDITION.

Elixir Ferri, Quininæ et Strychninæ

Due to the War Production Board Quinine Order issued April 4, 1942, restricting Quinine for use only as an anti-malarial agent or as an ingredient of Quinine and Urea Hydrochloride, the following monograph is recognized by the National Formulary until further notice. This monograph is intended to provide a replacement formula for Elixir of Iron, Quinine and Strychnine, but must be labeled in accordance with the new monograph.

ELIXIR FERRI ET STRYCHNINÆ

Elixir of Iron and Strychnine

Elix. Ferr. et Strych.

Elixir I. and S.

Tincture of Ferric Citrochloride	125 cc.
Strychnine Sulfate.	175 mg.
Compound Spirit of Orange	10 cc.
Alcohol	240 cc.
Glycerin	300 cc.
Distilled Water, a sufficient quantity,	
To make	1000 cc.

Mix the alcohol and the compound spirit of orange, then add the strychnine sulfate previously dissolved in 10 cc. of distilled water. Then add successively the glycerin, the tincture of ferric citrochloride, and sufficient distilled water to make the product measure 1000 cc.; mix well, and filter, using 10 Gm. of purified talc, if necessary, to clarify the product.

Storage—Preserve Elixir of Iron and Strychnine in tight containers, protected from light. *The Elixir should not be dispensed if markedly darkened in color.*

Alcohol content—From 23 to 26 per cent, by volume, of C_2H_5OH .

AVERAGE DOSE—Metric, 4 cc.; Apothecaries, 1 fluidrachm.

One average metric dose contains 0.5 cc. of Tincture of Ferric Citrochloride and 0.7 mg. of Strychnine Sulfate.

Elixir Glycerophosphatum Compositum

Until further notice, quinine hydrochloride may be omitted from the formula for Compound Elixir of Glycerophosphates in N. F. VI.

Syrupus Hypophosphitum Compositus

Until further notice, quinine may be omitted from the formula for Compound Syrup of Hypophosphites in N. F. VI.

REPRINTS of Interim Revision Announcement No. 5 may be obtained without charge by sending a self-addressed, stamped envelope to Justin L. Powers, Chairman, National Formulary Committee, 2215 Constitution Avenue, Washington, D. C.

Elixir Ferri, Quininæ et Strychninæ Phosphatum

Due to the War Production Board Quinine Order issued April 4, 1942, restricting Quinine for use only as an anti-malarial agent or as an ingredient of Quinine and Urea Hydrochloride, the following monograph is recognized by the National Formulary until further notice. This monograph is intended to provide a replacement formula for Elixir of Iron, Quinine and Strychnine Phosphate, but must be labeled in accordance with the new monograph.

ELIXIR FERRI ET STRYCHNINÆ PHOSPHATUM

Elixir of Iron and Strychnine Phosphates

Elix. Ferr. et Strych. Phos.	Elixir I. and S. Phosphates
Soluble Ferric Phosphate	35 Gm.
Strychnine Phosphate	250 mg.
Oil of Orange	1 cc.
Alcohol	250 cc.
Glycerin	300 cc.
Distilled Water, a sufficient quantity,	
To make	1000 cc.

Dissolve the soluble ferric phosphate in 250 cc. of distilled water by cold maceration, and add 75 cc. of glycerin. Dissolve the strychnine phosphate in the alcohol, and add the oil of orange and the remainder of the glycerin. Shake until thoroughly mixed; then add the ferric phosphate solution and enough distilled water to make the product measure 1000 cc. Filter, using 10 Gm. of purified talc, if necessary, to clarify the product.

Storage—Preserve Elixir of Iron and Strychnine Phosphates in tight containers, protected from light. *The Elixir should not be dispensed if markedly darkened in color.*

Alcohol content—From 22 to 25 per cent, by volume, of C_2H_5OH

AVERAGE DOSE—Metric, 4 cc.; Apothecaries, 1 fluidrachm.

One average metric dose contains 0.14 Gm. of Soluble Ferric Phosphate and 1 mg. of Strychnine Phosphate

Omission of Orange Flower Water from National Formulary Preparations

Until further notice, Water may be used in place of Orange Flower Water in National Formulary preparations in which the latter named product is an ingredient.

This Interim Revision Announcement is issued by action of the Committee on National Formulary and with the approval of the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION. It is effective from June 1, 1942, until further notice.

JUSTIN L. POWERS, *Chairman*,
Committee on National Formulary,
American Pharmaceutical Association

Washington, D. C.
June 1, 1942

THE PRESERVATIVE

p-HYDROXY BENZOIC ACID ESTERS

by ETTA MAE MACDONALD

A RESUME OF THE USE OF THESE NON-TOXIC, NON-IRRITATING COMPOUNDS IN PHARMACEUTICAL AND COSMETIC PREPARATIONS

THE preservative action of the *p*-hydroxybenzoic acid esters was recognized as early as 1930. An extract of a paper presented to the German pharmaceutical society published in the *Journal of Drug Markets*¹ reviewed the developments in the field to that time. The non-irritating property of the esters was established, and the materials were recommended for use where heat sterilization could not be applied. They were found useful in antiseptic powders, dental preparations, eye waters, elixirs, creams, and all types of pharmaceutical preparations. Later, in 1933, a paper by Dr. Erich Boehn of Berlin was published in the *Journal of the Drug and Cosmetic Industry*² describing the application and usefulness of the esters as preservatives for cosmetics. The materials are being promoted in the United States, and the *American Perfumer* has included them in its bulletin series on germicides and preservatives.³ More recently (1939-1941) confirmatory reports have been received from Italy, Russia and Switzerland, and from Argentina and other South American countries. Extensive studies in the United States have determined the effective concentrations of the various esters as well as their application to particular preparations.

The esters are white, odorless powders, and are stable in air. They are slightly soluble in water, soluble in oil, and freely soluble in alcohol. They are non-volatile and melt in the range of melting points of most fats (Butoben Merck, m. p. 63° C.). They are effective in acid, neutral or alkaline preparations, and do not react with metallic salts, constituents of the preparations, or with the alloys of containers. For this reason they do not affect the color, odor, flavor or consistency of the preparations, and are close to being the ideal preservative.

From various tests, including the standard F. D. A. phenol coefficient tests, it is apparent that the esters are four or five times as effective as phenol as preservatives, and the higher esters are more effective than the methyl esters. Roughly, the antiseptic and germicidal powers of the esters double with the increase in the number of carbon atoms in the substituent group. Against the staphylococcus the methyl ester exhibits a phenol coefficient of 3, the ethyl ester one of 8, the propyl ester one of 17, the butyl ester one of 32, and the benzyl ester one of about 80. The observations has been made that the preservatives probably exhibit a selective germicidal activity but this activity is generally uniform for all the esters with most organisms. Optimum concentrations for "antiseptic," "germicidal" and "bacteriostatic" action have been reported variously in the literature, and as is expected larger concentrations increase the germicidal power. The use of sodium salts of the esters, which are as effective as the esters, may overcome the difficulties in solubility, but they are reported to be less stable in aqueous preparations over a period of time. The solubility in water of the esters decreases with the increased number of carbon atoms of the substituent groups.

HOW TO INCORPORATE

The following methods of incorporation of the esters in the different types of preparations are generally recommended:

Aqueous solutions: 0.05-0.1 per cent of esters above methyl is sufficient. Add the preservative in alcoholic solution (1:10 stock solution is convenient) dropwise to desired final concentration.

Alcoholic preparations: 0.05-0.1 per cent of esters above methyl. Add the preservative directly, or add from a stock solution.

Creams: 0.02-0.3 per cent of esters above methyl, varying with the fat or oil content of the creams. High oil content required higher concentration of ester. Dissolve the esters (melt) in the melted fat or in the oil.

¹ Presented before the Sub-Section on Hospital Pharmacy, A. Ph. A., Detroit meeting, 1941.

Emulsions: 0.01–0.2 per cent of esters above methyl, varying with oil content. Dissolve the preservative in the oil or fat.

Oils and fats: 0.05–0.2 per cent of esters above methyl. Dissolve the preservative in the oil or fat. Higher esters are effective in smaller concentration.

Ointments, lipsticks, soaps: 0.05–0.2 per cent of esters above methyl. Dissolve the preservative in the fatty base.

Mucilages, syrups, extractions of drugs: 0.05–0.1 per cent of esters above methyl. Dissolve the preservative in boiling water previous to use in preparations.

Powders and pills: 0.05–0.1 per cent of esters above methyl. Disperse evenly throughout the powders.

Injections and eye waters: 0.005–0.1 per cent of esters above methyl. Dissolve in boiling water and use for menstruum.

Combinations of esters are recommended, both because of the germicidal selectivity and the base selectivity. Propyl ester and benzyl ester appear to be more efficient in oil bases than the methyl ester. Combinations of methyl, propyl and/or benzyl esters appear to be more effective than equivalent concentrations of either alone. The chief application of these preservatives is to cosmetic and ophthalmic preparations, for they are particularly acceptable in oily or fatty preparations, and are non-irritating to skin and mucous membranes. It should be remembered that such

oily or fatty preparations require more of the esters than the aqueous preparations do.

The preservative action of these esters is due to their antiseptic action. Presumably the *p*-hydroxybenzoic acid esters block the enzyme systems of the organisms against which they are effective, and prevent normal metabolism and growth. Only one enzyme system may be affected, or the whole organism may be affected. This mechanism may be analogous to that of inhibition by sulfanilamide and its related compounds.

SUMMARY

1. The *p*-hydroxybenzoic acid esters are effective preservatives for cosmetic and pharmaceutical preparations in concentrations as low as 0.1 per cent.
2. The effectiveness of the esters varies with the number of carbon atoms in the constituent groups, and effectiveness of the esters doubles with the addition of the carbon atoms to the constituent group.
3. The compounds are non-toxic and non-irritating.
4. Combinations of esters enhance their effectiveness.
5. The preservative action may be due to the disarrangement of the enzyme systems of the organisms affected.

¹ *Journal of Drug Markets*, 28 (1930), 37.

² Boehn, Erich, *Drug and Cosmetic Industry*, 32 (1933), 510.

³ Navarre, M. G., "Antiseptics, Germicides and Preservatives," *Amer. Perfumer*, Bulletin, 1936.

WPB REVOKES

FIFTY OUNCE QUININE EXEMPTION

CINCHONINE, CINCHONIDINE, AND QUINIDINE ARE INCLUDED IN NEW CONSERVATION ORDER

THE exemption of stocks of less than 50 ounces of quinine and totaquine from the terms of Conservation Order No. M-131 has been revoked by the War Production Board as of June 19, and all stocks of these drugs which pharmacists have on hand are now restricted for anti-malarial use only.

In addition, the War Production Board has issued a new order, No. M-131-a, which prohibits the sale of any amount of cinchonine or cinchonidine for other than anti-malarial purposes or the sale of quinidine except for anti-malarial purposes or the treatment of cardiac disorders.

The sale, transfer, or delivering of cinchonine, cinchonidine, and quinidine, except to ultimate consumers, may be made only on receipt of certificates specifying that the drugs involved will be used only as provided in the Conservation Order. Such certificates, together with complete and accurate records of inventories, production, and sales of the drugs must be preserved for two years.

Every person who had in his possession or control at any one place on June 19, 1942 more than 10 ounces of cinchonine, cinchonidine, and/or quinidine must make a report to WPB on Form PD-401A before July 10, 1942. In calculating the weight of such stocks, the individual does not need to include amounts of the drugs which had been combined or compounded with other materials before June 19.

The Health Supplies Branch of WPB explained that the tightening of the restrictions on cinchona derivatives is necessitated by the expectation of a severe shortage of all anti-malarial agents. The changes in the restrictions were recommended by the Office of the Surgeon General of the United States Army, the Bureau of Medicine and Surgery of the U. S. Navy, and by the National Research Council.

TIN TUBE ORDER AMENDED

Conservation Order M-115, governing tin tubes has been amended by the War Production Board in the following particulars:

1. An "ultimate purchaser" from whom a used tube must be received concurrently with the purchase of a filled tube of toothpaste or shaving preparation, is defined as "a person who acquires filled tubes for the satisfaction of personal needs (with or without paying any consideration therefore), as distinguished from one acquiring tubes for industrial or other business purposes or for further distribution.
2. Bona fide samples, manufactured prior to June 15, 1942 which are distributed indiscriminately and without any conditions may be delivered without requiring a used tube turn-in.
3. Manufacturers of dental and shaving products packed in tubes do not have to include products sold directly to the Army, Navy, or Coast Guard in their quotas of allowable manufacture.
4. Retailers may accept as turn-ins, used tubes of any kind, not necessarily those classified in Class I, II, or III of the order.
5. Retailers must give all of the used tubes in their possession to The Tin Salvage Institute, not merely those which they have received in turn-ins.
6. The retailer must furnish manufacturers or distributors from whom he buys, a certificate covering purchases of filled tubes of dental and cleansing preparations stating that he is familiar with the Tin Tube Conservation Order and will not use any tubes purchased from such manufacturer or distributor in violation of its terms.

7. Pharmacists may use pure tin tubes (Class I Tubes) only for preparations compounded extemporaneously by them on legally constituted prescriptions of physicians, dentists, or veterinarians, but such tubes cannot be used for preparations of pharmaceutical manufacturers which are dispensed on prescription, unless such manufactured products are included in other classifications of the order, namely, as preparations for ophthalmic use, solutions for hypodermic injections, sulfonamide ointments and blood plasma, diagnostic allergens, and pile pipes.

8. Gift kits or combination set boxes, in the hands of retailers on June 15, 1942, which hold multiple units including a tube of dental or shaving preparations, the value of which preparations comprises not more than 25 per cent of the total value of the package, may be disposed of without requiring used tube turn-ins if the gift packages or combination sets are delivered or sent direct by the seller to a member of the Army, Navy, or Coast Guard.

9. The used tube exchange provision shall not be required in connection with the sale or distribution of dental or shaving preparations by army exchanges, ships stores, ship service stores, marine exchanges; or with the sale aboard ship, in Alaska, or outside the continental limits of the United States; or with the sale at ports of embarkation, induction centers, receiving stations, receiving ships, to newly inducted selectees or enlistees or other persons designated by the commanding officer, or sales or distribution made in hospitals under the jurisdiction of the armed forces of the United States to casualties of war.



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EUGENE G. EBERLE

PHARMACY was at ebb tide in 1915 when Eugene Gustave Eberle came to the AMERICAN PHARMACEUTICAL ASSOCIATION to edit its JOURNAL. Four years previously, in his address as President of the ASSOCIATION he had made such pertinent observations as the following:

"The upholding of prices, the introduction of a line of remedies that bears a large profit, or of methods for collecting accounts, seems to appeal (to pharmacists) much stronger than pharmaceutical matters."

". . . it is unfortunate that in many drug stores pharmacy is not deemed of greatest value to the business "

"There is lack of ambition and a deficiency of interest (in pharmacy)."

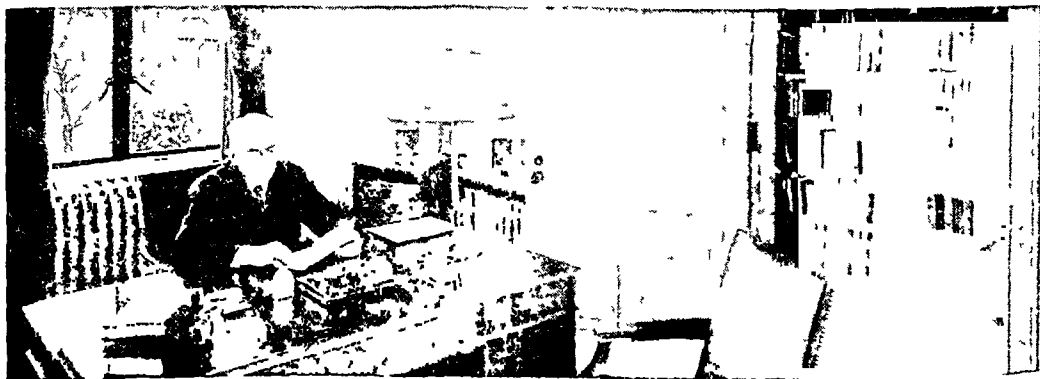
"The prohibition of saloons has increased the sale of liquors for medicinal purposes in drug stores "

Thus, at a time when educational requisites for the practice of pharmacy were low, when restrictions on the sale of alcoholic beverages which were the forerunners of national prohibition were beginning to place an unhappy burden on pharmacists, when the appeal of commercialism was apparently eclipsing the appeal of professionalism and show globes were disappearing from store windows to make room for merchandising displays—and, in addition, a time when the Nation was upset at the prospect of World War I, Dr. Eberle undertook the editing of this scientific pharmaceutical journal which had been founded but a few years before.

How well Editor Eberle succeeded in his task is a matter of record. Twenty-three annual volumes of the JOURNAL, from 1915 to 1938, tell the story of the development of this publication and its recognition not only by pharmacists but by members of the other professions and sciences as well. During his service as editor, Dr. Eberle saw the educational requirements of the practice of pharmacy increased to baccalaureate standing. He saw the pendulum swing back toward professionalism and it must have made him happy to see show globes returned to drug store windows. Who but feels that much of the progress made by this profession during this crucial period was aided by the stimulation of his writings?

It was natural that Dr. Eberle should have interested himself in historical aspects of pharmacy. Any writer who has sought to draw on the past for information to use in an article or editorial has been made keenly aware of the shortcomings of most historians and, on more than one occasion, has wished that he had lived generations before his time in order that he might have recorded more fully the pharmacy of that day. Dr. Eberle did his best to tie together the loose ends of information concerning the history of pharmacy in America and he collected a great many valuable historical records and objects for preservation in the Museum of the ASSOCIATION.

Editors, as a rule, are taken for granted. We read a journal primarily for the information it contains and although subconsciously we may appreciate the clarity with which ideas are expressed, the even style of sentences and para-





graphs which makes articles easy to read, and the general attractiveness of type and illustration, we are likely to assume that these qualities are characteristics of the material itself rather than of the skill of the editor's pen. Only when that pen ceases to write do we realize how much it meant to us.

Dr. Eberle was paid a salary by the ASSOCIATION for his editorial ability but the love and devotion and loyalty he gave the organization were his own contribution and although others might have edited the JOURNAL as well as he, no one could have given more of himself to a cause than he gave to the profession of pharmacy.

We of the AMERICAN PHARMACEUTICAL ASSOCIATION like to feel that Dr. Eberle belonged to us because he served in our offices in Columbus, Philadelphia, Baltimore and Washington. Actually, however, this ASSOCIATION and its JOURNAL were but the medium through which he served the whole of pharmacy.

Dr. Eberle's work will go on. The JOURNAL which he nurtured through its formative years is now published in two editions which vastly increase its scope and influence. The historical properties of the ASSOCIATION to day include, in addition to the Museum, two public shrines of early apothecaries and these collections are being continually augmented. The work of the Syllabus Committee, the revision of the U. S. P. and N. F., and the task of furnishing scholarships to pharmacy students, all of which benefited from his help, are becoming increasingly important.

Those of us of the ASSOCIATION staff, and others, who carry on various phases of Dr. Eberle's work, do so with a keen appreciation of the heritage which is ours

E F. KELLY
J L. POWERS
R. W. RODMAN

DR. EBERLE'S FRIENDS PAY TRIBUTE

In the death of E. G. Eberle, pharmacy has lost a friend of more than usual value to the profession. In his quiet unassuming manner he gave his faithful services to pharmacy over a period of nearly forty years, with never a complaint, but always, whether in his work as Editor of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, or in general discussion of matters pertaining to the welfare of pharmacy, he took an active part for the betterment of the profession.

Always sincere in his belief that the service of pharmacy is needed along with that of medicine in order to best serve public welfare, he advocated early in his activities that higher standards of education for pharmacy should be made compulsory.

In 1902, as Chairman of the A. PH. A. Section on Education and Legislation, his address to that body was a remarkable document, outlining suggestions for what he deemed necessary for the proper progress of pharmacy and not overlooking a few suggestions to members of boards of pharmacy as to how they could help by sponsoring needed legislation.

Records show many of the activities of Dr. Eberle in the fields of work pertaining to the betterment of the practice of pharmacy.

He has gone on from our midst, but he will always be gratefully remembered by those of us who were privileged to know him intimately and thereby benefit by his pleasing and helpful personality.

H. C. CHRISTENSEN,

Secretary,

National Association of Boards of Pharmacy

* * *

To those permitted to know Dr. Eberle well, his death is not only a deep personal loss, but it emphasizes in a most poignant and graphic manner, his profound influence upon the body and soul of pharmacy for nearly half a century.

His quiet manner, even disposition, thoughtful attitude, courteous behavior and great learning marked a true gentleman. These characteristics, too, afford some explanation of his deep-seated respect for pharmacy, and the professional pride which was so much a part of him.

Men like Dr. Eberle have a leavening, steadying effect, and the force of their precept and example fortunately persist long after they themselves have passed away.

It is this thought which enables us to accept his death with that philosophic calm which finds its roots in a true appreciation of his worth.

ROBERT L. SWAIN,
Editor, Drug Topics

* * *

The passing on of a good man from this world always leaves a sense of loss in the hearts of his many friends; but if with goodness there be combined greatness, this sense of loss becomes very marked. Doctor Eugene G. Eberle was such a man.

It was our privilege to become acquainted with Doctor Eberle about the time he became Editor of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION. This acquaintance ripened into friendship which also included Mrs. Eberle. We heartily rejoice over the great accomplishments of the man, but mourn over the loss of the friend.

The substantial building of the JOURNAL by Doctor Eberle, on the foundation which had been laid when he became its editor, is a great monument to him. In the history of pharmacy his name will live not only because of his great editorial work but because he himself was a great pharmaceutical historian.

EDMUND N. GATHERCOAL,
*Emeritus Professor of Pharmacognosy,
University of Illinois College of Pharmacy*

* * *

With the passing of Dr. Eberle, pharmacy and its associated branches loses a true and loyal friend. While his contacts with the profession were many, his work with the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION through so many years remains as a monument to his name. Many were the hours he spent in trying to perfect the JOURNAL, for my early contacts with him go back to the early twenties, when I frequently found him late at night at his Philadelphia Bourse building office, where I attended choral society rehearsals. His desk would be covered with proof as he was trying to arrange and read copy for the coming issue. He was not concerned over the late hour, nor with the work involved, but was truly happy in doing that which he loved to do. He worked because he loved his work and not for any glory which might be involved, an attribute too rarely found to-day.

Dr. Eberle was a frequent attendant at the annual meetings of the Pennsylvania Pharmaceutical Association and was usually found at the affairs of the Philadelphia College of Pharmacy and Science. He always had a softly spoken word for everyone and his gracious manner endeared him to all who knew him. He was a true and sincere friend, and all who knew him will miss him greatly.

ADLEY B. NICHOLS,
Philadelphia College of Pharmacy and Science

* * *

For years Dr. Eberle was held in very high esteem, during all his residence in Dallas, by all who knew him, both for what he was in himself, personally, and for the excellent work that he wrought in his noble calling as an editor.

GEORGE W. TRUETT,
*Pastor, First Baptist Church,
Dallas, Texas*

* * *

When we are confronted with the sad reality that so great and good a man as Eugene Eberle has answered the final summons we find no words to give suitable expression to our inmost feelings.

For almost a half century I had known him intimately, had honored him as a distinguished citizen, and loved him as a trusted friend.

The results of his long and useful life will be his enduring monument and his lovely personality will continue to linger in the memory of his many friends.

WALTER D. ADAMS,
Forney, Texas

* * *

The death of Dr. Eugene G. Eberle, Editor Emeritus of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, came to me as a distinct personal sorrow. Dr. Eberle was a friend of many years' standing. He was a distinguished citizen of Texas and brought luster to his learned profession.

He not only possessed high scholarship and a wealth of scientific knowledge, but he was a man of rare personal charm and attractive personality. The people of Texas were very proud of Dr. Eberle and his many accomplishments. As a friend and admirer of many years, I desire to have a share in a testimonial to his memory.

HON. TOM CONNALLY,
*Chairman, Committee on Foreign Relations,
United States Senate*

* * *

The passing of Dr. Eugene G. Eberle is a great loss to the AMERICAN PHARMACEUTICAL ASSOCIATION, pharmaceutical journalism and his many friends.

His retiring, modest and unselfish disposition, always willing and ready to assist and help every one, endeared him to all and makes him sadly missed.

I feel his demise keenly for we had been exceedingly close friends for many years.

His place in American Pharmacy will be hard to fill—may his Soul rest in peace.

S. L. HILTON,
Washington, D. C.

* * *

Eugene G. Eberle will long be remembered by the world of pharmacy. Over years far beyond the biblical span of life he devoted himself to the interests of the profession he loved so much. Perfection was his goal and service to mankind his motivating force. Into whatever field of endeavor his quest for perfection and opportunities for service took him, he left a lasting record of his outstanding ability and high ideals. His work on the revision of the U. S. Pharmacopoeia and in the adoption of the standards of the National Formulary is of inestimable value to pharmacy. In the progress of the AMERICAN PHARMACEUTICAL ASSOCIATION and establishment of the ASSOCIATION in its beautiful quarters in Washington, D. C., and in the development of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION into the influential mouthpiece of a great profession, no one deserves greater credit than Eugene G. Eberle.

He was a distinguished man, distinguished not only in intellectual attainments and professional achievements, but in the manly dignity and genial charm which betokened the gentleman. In his personal and professional relationships he was greatly beloved, for he was genuinely sincere, warmheartedly sympathetic and ever ready to lend a helping hand.

And now he has passed on to join, in the words of George Eliot, "the choir invisible of those immortal dead who live again in minds made better by their presence."

G. A. PFEIFFER,
New York, N. Y.

* * *

I knew Dr. Eugene Eberle for more than forty years. He was truly a gentleman and a scholar, a man of character and attainments, a man of refinement and Christian spirit.

He served pharmacy well in many capacities and for a very long time.

His past was beyond reproach and his future is, undoubtedly, secure.

H. A. B. DUNNING,
Baltimore, Md.

* * *

It is over forty years since I had the privilege of commencing ASSOCIATION work with our dear friend Eberle and each year I worked with him I became fonder of him. Rarely have I known a more gentle self-sacrificing man. Rarely have I known one more devoted to the interests of our ASSOCIATION.

After we members who are still living have crumbled into dust, Eugene Eberle's memory will remain as a monument in the volumes of the Journals of which he was Editor.

H. V. ARNY,
Montclair, N. J.

* * *

Truly, a faithful worker has finished his task!

"None knew him but to love him; none named him but to praise."

Everybody with whom Dr. Eberle came in contact admired him for his sterling qualities, especially for his natural modesty, graciousness, and gentleness. To be of service to pharmacy and to the AMERICAN PHARMACEUTICAL ASSOCIATION always was the thought uppermost in his mind.

Long will the memory of him live in the hearts of his host of friends.

JOSIAH C. PEACOCK,
Philadelphia, Pa.

* * *

With the passing on of Eugene G. Eberle the Old Guard suffers an irreparable loss and so does pharmacy at large. With his ascendancy ceases the beneficent personal influence of a kindly, gentle soul whose ideals and standards were effective factors in the successful struggle of pharmacy for advancement to its present recognized and merited position among the health science professions. The force of his example will go on. His long, active, successful life and service in the interests of better things for all divisions of pharmacy have assured for him a permanent place in the pharmaceutical history of his time. We were friends for over half a century.

FREDERICK J. WULLING,
*Dean Emeritus,
University of Minnesota, College of Pharmacy*

* * *

News of Dr. Eugene G. Eberle's death on May 2nd was received with somewhat of a shock as I had known him so long that he seemed to be a permanent fixture. In my long years of association with him, I found him to be a person of most unusual qualities. He was a gentleman at all times, simple in his way of living, steadfast in his religious beliefs, gentle in his manner, but unyielding where a principle was involved, capable, industrious and loyal to his friends and associates.

His contributions to the advancement of the interest of pharmacy as an Association worker, and particularly as Editor of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, cannot be valued, and it is in this field that his passing will be felt most keenly. His likable personality, however, made many friends for him in other walks of life and these, too, will miss him greatly.

I join with his many friends in paying him this last tribute.

A. G. DUMÉZ, Dean
*School of Pharmacy,
University of Maryland*

* * *

Most men are too much alike—born without distinctive personality, but not so with Eugene G. Eberle, whose talents easily evinced character and strength of high order. He lived for fifty years in a scientific age that was disturbing to chemistry, medicine and pharmacy, whose votaries did not always sleep in "beds of roses," tried to do their very best without being able to stem the tide that drifted out into the great beyond. Eberle had his trouble with JOURNAL articles and contributors—for less science and more of the practical—that druggists might read and profit thereby. I wonder what incentive such titles as these convey to the average retail druggist (JOURNAL, April 1942): "The Fungistatic Properties of Pyridine Carboxylic and Aminobenzoic Acids, a Resonance Effect," "Effects of Testosterone Acetate and Propionate and Estradiol Dipropionate upon the Resistance of the Rat to Evipal Sodium, Nostal, Pernoston and Pentobarbital Sodium," and others in the same case of equal complication.

However, Eberle has been useful in the field of pharmacy, by forcing his well-equipped brain to diffuse knowledge to liberal advantage. He and I worked nearly ten years in Baltimore, not practically together, but within a stone's throw—he at 10 W. Chase St., and I at 11 E. Chase St., separated by Charles St., the dividing line, so calls were easily made, when I invariably found him busy but equally willing to help my cause. His effacement and retiring attitude might have been less pronounced, but that was his habit and preference; he had only a few idle hours, always something to do—thoroughly and personally. I deeply regret his passing, for he seemed a real landmark, reliable caretaker of ancient valuables that might pass into less careful hands. He was so vigilant and mindful of these treasures, as to offer those capable of illustrating our writings, in the effort to improve quality. We cannot speak too highly of the capable, faithful and trusted, nor forget their memory.

D. M. R. CULBRETH,
Baltimore, Md.

* * *

One of the things always looked forward to with a great deal of anticipation was the presence at the annual conventions of the AMERICAN PHARMACEUTICAL ASSOCIATION of Dr. E. G. Eberle. My early contacts with him were largely through correspondence and when later I had the pleasure of meeting him and talking with him at the annual meetings, early opinions, formed through correspondence, were amplified a hundred fold. Always courteous, always tolerant of the immature ideas of youth, always willing and ready to offer friendly

advice and guidance—he served unconsciously as a model for the younger members of the ASSOCIATION. I think we took the services of Dr. Eberle too much for granted. If so, it was because he discharged them too well. His many contributions and his faithful and untiring service to the ASSOCIATION in the many of its offices he occupied, especially that of Editor of its JOURNAL for twenty-two years, contributed immeasurably to the advancement of the ASSOCIATION.

When the final history of Pharmacy of the Twentieth Century is written, Eugene Eberle will rank high among the outstanding American Pharmacists of that Century.

ELMER H. WIRTH,

*Professor of Pharmacognosy and Pharmacology,
University of Illinois College of Pharmacy*

* * *

Thank you for giving me the opportunity to say a word of tribute to the memory of Dr. Eberle, with whom I have enjoyed a friendship covering a long period of years and whose genial, kindly presence will be greatly missed at the annual meetings of the AMERICAN PHARMACEUTICAL ASSOCIATION.

Dr. Eberle's services to the ASSOCIATION, which was always foremost in his thoughts, are well known to all of us and his services in perpetuating the highest ideals of professional pharmacy will stand as a lasting monument to his memory. Personally, I have lost a very dear friend.

J. A. KOCH,
Ocala, Fla

* * *

In the passing of Dr. E. G. Eberle I feel the loss of a very dear and kind friend. My acquaintance with him dates back to the Semi-Centennial meeting of the A. PH. A. at Philadelphia. In the days of my youth and inexperience he was as a father to me and in the later years as a brother.

The Eberle family to which he belonged helped with others to lay well the foundations that have made the name "Wisconsin" stand among the foremost in education, as well as other things pharmaceutical. Editor Eberle was a real friend, a gentleman and a scholar. While my visits to Washington are infrequent, the entry into the building at 2215 Constitution Avenue will not be the same without his hand extended in a most friendly and dignified welcome.

D. F. JONES,
Watertown, S. D.

* * *

The death of Professor E. G. Eberle brings to his many friends a sense of loss and personal sorrow which is keenly felt.

Through the many years of his friendship he maintained unwaveringly the outstanding qualities of his life—namely, loyalty to principles and friendships, absolute honesty, unselfishness, continuous and persistent carrying through of what he believed to be right and his duty.

The charm of his intimate and loving friendship in our home with the children, his long interesting handwritten letters to them at Christmas and on birthdays, his gifts of toys, and his enjoyment of these with the children, are precious memories of the inner family circle never to be erased.

His was a rich life, demonstrating the fineness and nobility of his character. We shall all miss him.

E. FULLERTON COOK,
*Chairman,
U. S. P. Revision Committee*

* * *

For many years, Dr. Eberle did not spare himself in service to the AMERICAN PHARMACEUTICAL ASSOCIATION. During those years, it seemed to be the one thing in his mind, the one thing that he lived for. It is not fair to single out his work either as editor or as historian for particular praise, because he accomplished both so well. Those of us who have been privileged to know him personally will remember him as long as we live for his labors, his loyalty and his friendship.

GEORGE D. BEAL,
*Assistant Director,
Mellon Institute of Industrial Research*

* * *

In the many years of my knowledge of Dr. Eberle, he was busy—busy doing something useful and worth while. In his view, time was too precious to be wasted.

In his chosen profession he climbed high and was signally honored.

His nature was gentle and kind. He loved people and people, in turn, loved him. During his lifetime many thousands could well call him a "guide, philosopher and friend." A modest man, his constant effort and desire was to do those things which make for a better world, and he admirably succeeded in that effort.

His life was a fine example for others to follow and many a soul was helped upward by what he said and what he did. Such a record will not be forgotten, but in ways unknown, for time unknown, will beckon others struggling along the pathway to higher and better things.

G. B. DEALEY,
The Dallas Morning News

* * *

I feel quite certain that no one will think it a sacrilege when I refer to the late Eugene G. Eberle as "Christ-like." For such he was in many of his attributes. There was a decency to him, a cleanliness, and such an unmasking friendliness. He was a comforting, comfortable companion, knowing well how to mind his own affairs, yet always willing to help, and particularly, those youngsters who sought his counsel. He illumined the paths he traveled, and those who walked with him, now that he is gone, will forever remember him for his quiet, refined and courtly character.

IVOR GRIFFITH,
President,

Philadelphia College of Pharmacy and Science

* * *

The death of Dr. Eugene G. Eberle, Editor Emeritus of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION, which has brought deep sorrow to the hearts of his many friends, is to pharmacy, to which he devoted his life, an inestimable loss. His life was an inspiration to those who served with him. I feel a great sense of personal loss, in view of our long friendship, and because of his active interest in, and work as Chairman of the Fairchild Scholarship Committee. His memory will remain a choice possession of those who knew him.

B. TAPPEN FAIRCHILD,
New York, N. Y.

* * *

His many friends, as well as his profession, mourn the passing of Dr. Eugene G. Eberle.

I had the privilege of knowing and working with Dr. Eberle since 1903, and my respect and admiration for him has always been of the highest.

There is not space enough to enumerate here the many accomplishments of Dr. Eberle. I need only say that Pharmacy has sustained a great loss in his passing.

J. LEON LASCOFF,
Chairman,
Pharmaceutical Recipe Book Committee

* * *

In a country where the pioneer meant much and was the forerunner of progress, it is not easy to mark the passing of an honored man such as Eugene G. Eberle. The turn of the century brought to Texas and the Great Southwest the inspiration of professionalism and organization for Pharmacy in Dr. Eberle.

In his passing, Texas loses a respected friend and citizen, and America's Pharmacy feels the loss of an honored preceptor.

WALTER COUSINS, JR.,
Editor,
Southern Pharmaceutical Journal

* * *

Eugene G. Eberle had a personality and charm of manner which were peculiarly his own. He was ever ready to assume additional burdens, even at much personal discomfort and sacrifice, if he thought he could thereby help the profession which he loved, or assist a friend or co-worker in the achievement of a worthy goal. His depth of interest in the AMERICAN PHARMACEUTICAL ASSOCIATION and faithfulness in the discharge of his official duties were almost a religion with him. No effort seemed too great nor sacrifice too large if others, and especially the AMERICAN PHARMACEUTICAL ASSOCIATION, would benefit thereby. It will be a long time before American Pharmacy will again be served by one so self-sacrificing, so faithful, so loyal and withal so lovable.

ROBERT P. FISCHER,
Chairman of the Council,
AMERICAN PHARMACEUTICAL ASSOCIATION

* * *

Mr. Eugene G. Eberle, long-time editor of your JOURNAL, was one of the finest men I have ever known. I enjoyed his friendship for many years, and while we each were very busy during those years, still there was some opportunity for friendly contact, and opportunity really to know the quality of his mind and character. While an extremely modest person, judged by every standard by which men are measured, he was among the foremost men of his time in useful service and contributions toward making this country what we would like to have it be.

HATTON W. SUMNERS,
Representative from Texas

* * *

In the death of Eugene Eberle the AMERICAN PHARMACEUTICAL ASSOCIATION loses one of its most devoted, and formerly, one of its most active members.

Dr. Eberle and I became active in ASSOCIATION affairs at about the same period, and in close association with him through approximately forty years in the work of numerous committees, in the various Sections and in the work of the Council I became impressed with his sincere and disinterested spirit in the service of the ASSOCIATION. No task was too severe, no duty too burdensome, no objective too remote if its accomplishment would contribute to the welfare of the ASSOCIATION which held so high a place in his regard, and to the service of which he had devoted so much of his life's activities.

Eugene Eberle was a fine American citizen, an accomplished pharmacist, an excellent editor of the ASSOCIATION JOURNAL, and a most devoted and unselfish member of the ASSOCIATION.

JAMES H. BEAL

AMERICAN PHARMACEUTICAL ASSOCIATION

OFFICIAL ROSTER FOR 1941-1942

(Committees will be corrected as appointments are made by the President, Chairman of the Council, Chairman of the House of Delegates and Chairman of the Sections.)

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Second Vice-President, L. W. Rowe, Detroit, Mich.
Secretary, E. F. Kelly, 2215 Constitution Ave., Washington, D. C.
Treasurer, Hugo H. Schaefer, 600 Lafayette Ave., Brooklyn, N. Y.
Editors of the Journal: Scientific Edition, J. L. Powers, 2215 Constitution Ave., Washington, D. C.; *Practical Pharmacy Edition*, R. W. Rodman, 2215 Constitution Ave., Washington, D. C.

THE COUNCIL

Elected Members.—H. C. Christensen, 130 N. Wells St., Chicago, Ill. (1942); R. P. Fischelis, 28 W. State St., Trenton, N. J. (1942); Ernest Little, 1 Lincoln Ave., Newark, N. J. (1942); Glenn L. Jenkins, Purdue University, Lafayette, Ind. (1942); H. A. B. Dunning, Charles & Chase Sts., Baltimore, Md. (1943); F. J. Cermak, 3501 E. 93rd St., Cleveland O. (1943); F. E. Bibbins, Eli Lilly & Co., Indianapolis, Ind. (1944); F. H. Costello, Cooperstown, N. D. (1944); R. L. Swain, 330 W. 42nd St., New York, N. Y. (1944).
Ex-Officio Members.—B. V. Christensen, C. H. Evans, J. K. Attwood, L. W. Rowe, E. F. Kelly, Hugo H. Schaefer, Henry H. Gregg, Jr.

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Secretary, E. F. Kelly.

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Committee on Property and Funds.—*Chairman*, B. V. Christensen; H. H. Schaefer; R. P. Fischelis; R. L. Swain, E. F. Kelly.
Committee on Publications.—*Chairman*, R. P. Fischelis, B. V. Christensen; Ernest Little; E. F. Kelly; H. H. Schaefer.
Committee on Standard Program.—*Chairman*, B. V. Christensen; H. H. Gregg; Ernest Little; H. C. Christensen; E. F. Kelly.
Committee on N. F. and R. B. Policies.—G. L. Jenkins, Ernest Little; E. F. Kelly. *Ex-Officio*, J. L. Powers; E. F. Cook; J. L. Lascoff.
Committee to Develop Advertising for the R. B. and N. F.—*Chairman*, J. L. Lascoff; H. A. B. Dunning; R. W. Rodman.
Representatives on The American Council on Pharmaceutical Education.—R. P. Fischelis (1946); E. F. Kelly (1944), D. F. Jones (1942). These members serve with an equal number from the A. A. C. P. and the N. A. B. P.
Committee on A. Ph. A. Laboratory.—*Chairman*, G. D. Beal (1943); F. O. Taylor (1944); C. P. Frailey (1942); J. L. Powers (1945); G. L. Jenkins (1946). *Ex-officio*, E. F. Cook; J. L. Lascoff.
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Committee on Office Personnel.—*Chairman*, R. L. Swain, H. H. Schaefer; H. A. B. Dunning.

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Officers of the House.—*Chairman*, H. H. Gregg, Minneapolis, Minn.; *Vice-Chairman*, C. L. O'Connell, Pittsburgh Pa.; *Secretary*, E. F. Kelly, Washington, D. C.

COMMITTEES OF THE HOUSE OF DELEGATES

Place of Meeting.—*Chairman*, R. A. Lyman, Lincoln, Nebr.; H. A. K. Whitney, Ann Arbor, Mich.; R. C. Wilson, Athens, Ga.; R. E. Terry, Chicago, Ill.; F. H. Costello, Cooperstown, S. Dak.
State Food and Drug Legislation.—*Chairman*, R. P. Fischelis, Trenton, N. J.; R. L. Swain, New York, N. Y.; C. L. O'Connell, Pittsburgh, Pa.; A. L. I. Wiane, Richmond, Va.
Continuation Study for Pharmacists.—*Chairman*, C. V. Netz, Minneapolis, Minn.; H. W. Heine, Lafayette, Ind.; L. M. Kantner, Baltimore, Md.; J. K. Attwood, Jacksonville, Fla.

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Minn.; *Second Vice-Chairman*, L. W. Hazleton, Washington, D. C.; *Secretary*, F. E. Bibbins, Indianapolis, Ind.; *Delegate to the House of Delegates*, J. M. Dille, Seattle, Wash.
Committee on Ebert Prize.—*Chairman*, M. R. Thompson, New York City; W. J. Husa, Gainesville, Fla.; F. F. Johnson, Pittsburgh, Pa.; M. J. Andrews, Baltimore, Md.; L. C. Miller, Washington, D. C.

Committee on Kilmer Prize.—*Chairman*, E. B. Fischer, Minneapolis, Minn.; E. H. Wirth, Chicago, Ill.; L. K. Darbaker, Wilkinsburg, Pa.

Board of Review of Papers.—*Chairman*, F. E. Bibbins, Indianapolis, Ind. (1946); H. M. Burlage, Chapel Hill, N. C. (1946); R. B. Terry, Chicago, Ill. (1942); Carl J. Klemme, Tuckahoe, N. Y. (1942); L. W. Rowe, Detroit, Mich. (1943); H. W. Youngken, Boston, Mass. (1943); C. O. Lee, Lafayette, Ind. (1944); L. W. Rising, Seattle, Wash. (1944); E. V. Lynn, Boston, Mass. (1945); W. T. Sumerford, Athens, Ga. (1945).

Committee on Monographs.—*Chairman*, E. E. Swanson, Indianapolis, Ind.; H. G. Hewitt, Buffalo, N. Y.; A. H. Uhl, Madison, Wis.; J. L. Powers, Washington, D. C.; G. E. Cwalina, Omaha, Nebr.

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Section on Practical Pharmacy.—*Chairman*, W. A. Prout, Charleston, S. C.; *First Vice-Chairman*, E. P. Guth, Pittsburgh, Pa.; *Second Vice-Chairman*, Charles O. Wilson, Minneapolis, Minn.; *Secretary*, C. T. Eidsmoe, Brookings, S. D.; *Delegate to the House of Delegates*, L. C. Zopf, Iowa City, Ia. *Subsection on Hospital Pharmacy*.—*Chairman*, H. A. K. Whitney, Ann Arbor, Mich.; *Vice-Chairman*, Geraldine Stockert; *Secretary*, Hazel E. Landeen, 716 S. Johnson St., Ada, Ohio.

Section on Pharmaceutical Economics.—*Chairman*, B. Olive Cole, Baltimore, Md.; *Vice-Chairman*, I. Rothrock, Mt. Vernon, Ind.; *Secretary*, H. W. Heine, Lafayette, Ind.; *Delegate to the House of Delegates*, C. M. Brown, Columbus, O.

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Elected by the Council

Committee on National Formulary.—*Chairman*, J. L. Powers, Washington, D. C.; G. L. Jenkins, Lafayette, Ind. (1949); C. O. Lee, Lafayette, Ind. (1948); A. B. Nichols, Philadelphia, Pa. (1947); J. B. Fullerton, Kalamazoo, Mich. (1946); F. L. Black, Baltimore, Md. (1945); H. H. Schaefer, Brooklyn, N. Y. (1944); H. A. K. Whitney, Ann Arbor, Mich. (1943); E. W. Wirth, Chicago, Ill. (1942); R. A. Deno, Newark, N. J. (1950); H. W. Haag, Richmond, Va. (1951).

Committee on Recipe Book.—*Chairman*, J. L. Lascoff, New York City; J. K. Attwood, Jacksonville, Fla.; I. A. Becker, Chicago, Ill.; F. E. Bibbins, Indianapolis, Ind.; H. M. Burlage, Chapel Hill, N. C.; E. F. Cook, Philadelphia, Pa.; M. G. de Navarre, Detroit, Mich.; H. A. K. Whitney, Ann Arbor, Mich.; R. P. Fischelis, Trenton, N. J.; John E. O'Brien, Omaha, Nebr.; E. N. Gathercoal, Chicago, Ill.; S. L. Hilton, Washington, D. C.; H. E. Kendig, Philadelphia, Pa.; J. F. McCloskey, New Orleans, La.; C. E. McCormick, Baltimore, Md.; G. A. Moulton, Peterborough, N. H.; J. C. Munch, Upper Darby, Pa.; C. L. O'Connell, Pittsburgh, Pa.; G. C. Schicks, Newark, N. J.; R. L. Swain, New York City; R. E. Terry, Chicago, Ill.; J. L. Powers, Washington, D. C.; O. U. Sisson, Chicago, Ill.; C. P. Wimmer, New York City; R. W. Rodman, Washington, D. C.

Committee on Pharmaceutical Research.—*Chairman*, F. E. Bibbins, Indianapolis, Ind. (1943); Ernest Little, Newark, N. J. (1943); W. J. Husa, Gainesville, Fla. (1944); G. D. Beal, Pittsburgh, Pa. (1944); J. A. Koch, Pittsburgh, Pa. (1942); C. L. Jenkins, Furdue University, Lafayette, Ind. (1942); H. W. Youngken, Boston, Mass. (1946); L. W. Rowe, Detroit, Mich. (1946); J. C. Krantz, Jr., Baltimore, Md. (1945); E. N. Gathercoal, Chicago, Ill. (1945). *Associate Members*, E. F. Cook, Philadelphia, Pa.; J. L. Powers, Washington, D. C.; E. F. Kelly, Washington, D. C.; H. H. Schaefer, Brooklyn, N. Y.

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Appointed by the President

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Committee on Legislation.—*Chairman*, A. L. I. Winne, Richmond, Va.; R. P. Fischelis, Trenton, N. J.; H. H. Schaefer, Brooklyn, N. Y.; R. L. Swain, New York City; Rowland Jones, Washington, D. C.; A. G. DuMez, Baltimore, Md.; E. F. Kelly, Washington, D. C.

Committee on U. S. Pharmacopoeia.—*Chairman*, F. O. Taylor, Detroit, Mich. (1950); E. H. Wirth, Chicago, Ill. (1946); H. E. Bischoff, Union City, N. J. (1942); H. E. Kendig, Philadelphia, Pa. (1943); C. N. Glover, Ann Arbor, Mich. (1944); A. F. Schlichting, St. Louis, Mo. (1945); W. J. Husa, Gainesville, Fla. (1947); C. L. O'Connell, Pittsburgh, Pa. (1948); W. F. Rudd, Richmond, Va. (1949); L. D. Hiner, Columbus, O. (1951).

Committee on Pharmaceutical Syllabus.—*Chairman*, H. C. Muldoon, Pittsburgh, Pa. (1946); E. D. Stanley, Madison, Wis. (1947); E. R. Serles, Chicago, Ill. (1942); R. A. Lyman, Lincoln, Neb. (1943); Glenn L. Jenkins, La Fayette, Ind. (1944); R. A. Deno, Newark, N. J. (1945); A. H. Uhl, Madison, Wis. (1948).

Committee on Pharmacy Week.—*Chairman*, John O'Brien, Omaha, Neb.; D. S. Evans, Orlando, Fla.; O. Rennebohm, Madison, Wis.; J. A. Lynch, Philadelphia, Pa.; F. D. Lascoff, New York, N. Y.; G. H. Frates, San Francisco, Cal.

Committee on Horticultural Nomenclature.—*Chairman*, H. W. Youngken, Boston, Mass.; C. W. Ballard, New York City; E. H. Wirth, Chicago, Ill.

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WAR PROBLEMS HIGHLIGHT DENVER MEETING

REPRESENTATIVES of various governmental agencies including the War Production Board, the Office of Price Administration, the Board of Economic Warfare, the Army, the Navy, and of Congress are expected to attend the 90th Annual Meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION in Denver, Colorado, August 16-21, to counsel and advise the profession of pharmacy in applying its personnel and facilities most effectively in the prosecution of the war effort. In most, if not all, cases the representatives of the government agencies will be men with pharmaceutical training and experience who will be able to explain not only the objectives of their respective units but how pharmacists individually and collectively can adjust themselves to the emergency restrictions and aid their government. The effectiveness of the work of the war agencies depends upon the understanding support of those who are bound by price ceilings, conservation orders and other necessary emergency restrictions, and the Denver Meeting will be the first opportunity that WPB, OPA, and other agencies have had to discuss their work and their plans with the pharmacists of the nation.

One of the most important sessions of the meeting will be the combined meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION, the American Association of Colleges of Pharmacy and the National Association of Boards of Pharmacy on Monday evening, August 17th. At this meeting Dean H. Evert Kendig, Chairman of the Committee on the Status of Pharmacists in the Government Services, will present his report. Following Dr. Kendig's report there will be

an open discussion of the pharmacist under Selective Service, in the Army and in the Navy; Congressman Durham's Pharmacy Corps Bill which was introduced in Congress on July 22nd; federal loans to pharmacy students; and the related problems of personnel shortages, acceleration of college courses, and the maintenance of our present standards of pharmaceutical practice.

The affairs of pharmacy need careful guidance during this emergency period and it is of the utmost importance that every individual in the field realize the significance of the past year's developments so that he can govern his actions intelligently. The problem of providing the number of pharmacists required by the armed forces without leaving any community without adequate pharmaceutical services for the protection of civilian health requires careful study. The fact that approximately one-third of the nation's physicians are expected to be in uniform by the end of this year will place an added burden on civilian pharmacists and the profession should give consideration to ways and means in which pharmacists can shoulder this task. The whole future of pharmacy may well depend upon the decisions which are made during the emergency. If our educational standards should be broken down, our requirements for licensure relaxed, or if the shortage of men and women in practice should force the public to develop other means of obtaining drugs and health supplies, pharmacy as a profession would suffer immeasurably and possibly irreparably. The American people can depend upon pharmacy to contribute its full measure of support to the war effort and to accept will-

ingly any sacrifice which is essential to victory, but the profession will do everything within its power to see that pharmacy's part in the emergency is guided wisely—for the benefit not of the profession but of the public.

The present emergency will not end with the military victory for the problems of peace will challenge our entire way of living and every American institution will have to justify its existence in the light of a changed political, economic and social world. How the public will decide it shall receive and pay for medical, dental and pharmaceutical services necessary to health is bound to be an important decision during the reconstruction period. The position of pharmacy at that time may very conceivably be determined by how the profession has weathered the war and right now is when we are making the decisions which will guide us through that period.

In considering these probable problems of the period which will follow the war we must not be complacent in the belief that because pharmacy has always been a profession it will always be such. The United States Court of Appeals, in upholding the A.M.A. conviction on charges of conspiracy in restraint of trade recently, said "Professions exist because the people believe they will be better served by licensing especially prepared experts to minister to their needs. The licensed monopolies which professions enjoy constitute, in themselves, severe re-

straints upon competition, but they are restraints which depend upon capacity and training, not special privilege.

"The better educated laity of today questions the adequacy of present-day medicine," said the Court. "Their challenge finds support from a substantial portion of the medical profession itself. The people give the privilege of professional monopoly and the people may take it away."

It might be said, in passing, that many of "the better educated laity of today" are inclined to regard pharmacy as practiced in this country as a retail business rather than a profession. For example, ponder the classification of prescriptions by OPA as commodities sold in drug stores and the insistence of this governmental agency that they come under the General Maximum Price Order which exempts professional services.

The time is upon us when we must get our thinking straight, contemplate our future through the pressure of the war and the critical years which will follow, and shape, as well as we can, the destiny of the profession.

The Denver Convention will be a war meeting—but it will be even more than that. Those who attend and take part in the discussions will help formulate policies and plans of fundamental importance which may be expected to exert a profound influence on the conditions under which we, and those who follow us in this profession, will live and practice.

COME TO DENVER
AUGUST 16-21
FOR THE
90TH ANNUAL MEETING
OF
THE AMERICAN PHARMACEUTICAL ASSOCIATION
AND AFFILIATED ORGANIZATIONS

H. R. 7432
IN THE HOUSE OF REPRESENTATIVES
JULY 23, 1942

A BILL

To amend certain provisions of the National Defense Act of June 3, 1916, as amended, relating to the Medical Department of the Regular Army. (Underlined portions indicate amendments.)

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That (a) the first sentence of the first paragraph of section 10 of the National Defense Act of June 3, 1916, as amended, is amended by striking out "the Medical Administrative Corps" and inserting in lieu thereof "the Pharmacy Corps."

(b) The second sentence of the first paragraph of section 10 of such Act, as amended, is amended to read as follows: "The number of officers of the Medical Corps shall be 1,424, and of the Pharmacy Corps, 72."

(c) The second sentence of the second paragraph of section 10 of such Act, as amended, is amended to read as follows: "An officer of the Pharmacy Corps shall be promoted to the grade of first lieutenant after three years' service, to the grade of Captain after six years' service, to the grade of major after twelve years' service, to the grade of lieutenant colonel after twenty years' service, and to the grade of colonel after twenty-six years' service."

(d) The last sentence of the third paragraph of section 10 of such Act, as amended, is amended to read as follows: "For purposes of future promotion, any person so appointed in the Medical or Dental Corps shall be considered as having had, on the date of appointment, service equal to that of the junior officer of his grade and corps now in the Regular Army; and in the Veterinary or Pharmacy Corps, sufficient service to bring him to his grade under the rules established in this section."

Sec. 2. The last two sentences of section 24 (c) of the National Defense Act of June 3, 1916, as amended, are amended to read as follows: "Existing laws providing for the examination of officers for promotion are hereby repealed, except those relating to physical examination, which shall continue to be required for promotion to all grades below that of brigadier general, and except also those governing the examination of officers of the Medical, Dental, Pharmacy, and Veterinary Corps. Officers of said four Corps shall be examined in accordance with laws governing examination of officers of the Medical Corps."

Sec. 3. The fourth sentence of section 24 (e) of the National Defense Act of June 3, 1916, as amended, is amended to read as follows: "Appointments in the Pharmacy Corps shall be made in the grade of second lieutenant from pharmacists between ages of 21 and 32 years who are graduates of recognized schools or colleges of pharmacy requiring four years of instruction for graduation, under such regulations and after such examinations as the Secretary of War shall prescribe."

Sec. 4. The first and second provisos of section 47 (c) of the National Defense Act of June 3, 1916, as amended, are amended to read as follows: "*Provided*, that any medical, dental, pharmacy, or veterinary student may be admitted to a Medical, Dental, Pharmacy, or Veterinary Corps unit of the Reserve Officers' Training Corps for a course of training at the rate of ninety hours of instruction per annum for the four collegiate years, and if at the end of two years of such training he has been selected by the professor of military science and tactics and the head of the institution for advanced training, and has agreed in writing to continue in the Reserve Officers' Training Corps for the remainder of his course at the Institution, and has agreed in writing to pursue the course in camp training prescribed by the Secretary of War, he may be furnished, at the expense of the United States, with commutation of subsistence at such rate not exceeding the cost of the garrison ration prescribed for the Army, as may be fixed by the Secretary of War, during the remainder of his service in the Reserve Officers' Training Corps, not exceeding two years: *Provided further*, that any Reserve officer who is also a medical, dental, pharmacy, or veterinary student may be admitted to such Medical, Dental, Pharmacy, Veterinary Corps unit for such training, under such rules and regulations as the Secretary of War may prescribe."

BILL INTRODUCED TO ESTABLISH PHARMACY CORPS IN THE ARMY

CONGRESSMAN DURHAM, OF NORTH CAROLINA, ASKS COMPARABLE RECOGNITION WITH PHYSICIANS, DENTISTS AND VETERINARIANS FOR PHARMACISTS IN SERVICE

A VIGOROUS demand that the health of the American soldier be given the same protection that the American civilian enjoys in respect to drugs and medicines was made in Congress July 23rd by Representative Carl T. Durham, of North Carolina, in introducing a bill to provide for the establishment of a Pharmacy Corps in the U. S. Army. Mr. Durham is a member of the House Military Affairs Committee.

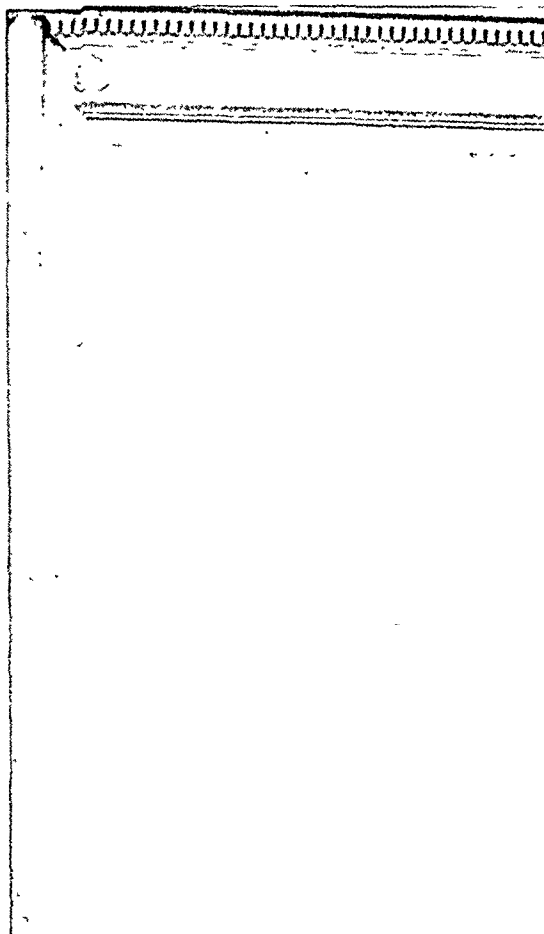
In a statement explaining his bill, Congressman Durham, who is himself a pharmacist, said, "Pharmacy is a civilian profession which involves duties which have their counterpart in the Army. It is a distinct calling in civil life of comparable status with medicine and dentistry and one which only pharmacists are qualified to practice.

"The American public requires that those who compound and dispense drugs and medicines meet high requirements of education, training, and experience before they are entrusted with the responsibility of handling strychnine, morphine, sulfanilamide, and other potent drugs and poisons. The civilian pharmacist must be a graduate of a four-year course in pharmacy in an accredited college of pharmacy, must serve a year or more of internship, and then must pass stringent state examinations in order to be licensed.

Dr. H. Evert Kendig, Chairman of the Committee on the Status of Pharmacists in the Government Service of the AMERICAN PHARMACEUTICAL ASSOCIATION, the National Association of Retail Druggists, the American Association of Colleges of Pharmacy, and the National Association of Boards of Pharmacy, hands the original copy of the Pharmacy Corps Bill to Congressman Carl T. Durham, of North Carolina, who introduced it in the House of Representatives. Present at this ceremony, which took place on the steps of the AMERICAN INSTITUTE OF PHARMACY, Washington headquarter of the A. P. H. A., were (left to right) Dr. E. F. Kelly, Secretary of the A. P. H. A., Rowland Jones, Washington Representative of the N. A. R. D., and Congressman Harve Tibbott, of Pennsylvania, who is also a pharmacist.

"Corresponding protection is not afforded the soldier. The Army permits drugs and medicines to be compounded by enlisted men; in some cases the man is given a '90-day instruction' but not all of the men who are to-day performing pharmaceutical tasks in Army hospitals and installations have had even this much training. The Army seems disposed to regard pharmacy as work of a subsidiary nature which the physician can undertake as a matter of course, or which can be relegated to persons with limited or undefined training. In doing so, it fails to give the soldier the protection to which he is entitled.

"The modern treatment of disease requires the use of such highly specialized, complex compounds as sulfanilamide, sulfathiazole, sulfadiazine, sulfaguanidine, and serums, vaccines and antitoxins. These very effective new drugs have greatly



changed the procedure of the Army doctor; no longer does he confine his prescribing to the drugs found in the simple lists of a few years ago. The safety of our men in uniform demands that those who handle these drugs and similar medicines be highly trained, competent individuals who are familiar with the character of the potent substances they supply.

"At the present time in the Army, various phases of the purchase, shipment, storage, compounding and dispensing of drugs and medicines are assigned to the Sanitary Corps, the Medical Corps and the Medical Administrative Corps with consequent division of authority and responsibility, overlapping of duties, and unnecessary red tape. All of these functions should be coördinated in a Pharmacy Corps of equal standing and authority as the Medical, Dental and Veterinary Corps. Pharmacists by their education and training know how to purchase drugs and medicines wisely and economically. They are competent to standardize them. They know the special precautions which must be taken in storing and transporting certain drugs to prevent deterioration through excessive heat, cold, moisture or dryness. Failure to utilize fully the services of pharmacists can only result in a lack of efficiency and an uneconomic use of medical supplies.

"In addition to his knowledge of the sources of supply of drugs, their testing, storage, transportation, compounding, dispensing and use, the pharmacist's training fits him to render other special duties related to the furnishing of health services, should an emergency demand it.

"Enactment of the Pharmacy Corps Bill will not only give the American soldier the protection of a well-coördinated pharmaceutical service, make available large, unused resources of skill and knowledge for fruitful application, but would release many physicians who are now performing tasks which could be handled as well or better by pharmacists. The Army is short of physicians and yet many doctors are performing tasks which are more pharmaceutical than medical. Several medical journals have recently warned that many physicians in the Army are liable to lose their skill and technique through lack of their use. I believe that physicians in the Army should be relieved of all the duties which they now perform which could be assumed by men with pharmaceutical training."

Congressman Durham's Bill is supported by

the AMERICAN PHARMACEUTICAL ASSOCIATION, the National Association of Retail Druggists, the American Association of Colleges of Pharmacy, the National Association of Boards of Pharmacy, and the National Drug Trade Conference, as well as state and local pharmaceutical associations.

The Bill introduced by Congressman Durham would amend the National Defense Act of June 3, 1916, as amended, by changing the name of the Medical Administrative Corps to the Pharmacy Corps, raising the number of personnel in the Corps from 16 to 72, and changing the promotion schedule to permit increase in rank to first lieutenant after 3 years' service; to captain after 6 years' service; to major after 12 years' service; to lieutenant colonel after 20 years' service; and to colonel after 26 years' service. Applicable sections of the Act would be amended to include the *Pharmacy Corps with the Medical, Dental and Veterinary Corps* to give pharmacists comparable rights and privileges. Appointments in the Corps would be in the grade of second lieutenant.

It must be borne in mind that the Pharmacy Corps Bill relates to the Regular Army. Its provisions may or may not be applied to the organization of the Army of the United States depending upon the will of the appropriate officials. Should the need for pharmacists in the armed forces become extremely acute, regulations could be issued commissioning pharmacists in the Army of the United States directly from civil life without requiring the previous military service which is now required.



Dr. H. Evert Kendig, who will discuss the Pharmacy Corps Bill at the Denver Meeting of the A. P. H. A.

Syrup Substitutes

SUGAR SHORTAGE CENTERS
ATTENTION ON ARTIFICIAL SYRUPS;
SUSPENSIONS OF TRAGACANTH
OR IRISH MOSS SWEETENED
WITH SOLUBLE SACCHARIN
FOUND MOST SATISFACTORY

by C. LEE HUYNK

OF THE RESEARCH LABORATORIES OF THE WILLIAM S. MERRELL COMPANY

BECAUSE of the present restrictions on the use of sugar in pharmaceuticals and the possibility of greater restrictions in the future, the question of syrup substitution is an important one. It is hoped that this article may be of some value to workers confronted with this problem now and in the future.

In 1864 honey was suggested as a sugar substitute in syrup of ferrous iodide¹ not because of the lack of sugar but because it made a more stable syrup. T. B. Groves² added gums and honey to syrup of chloroform in order to increase its sta-

bility and viscosity. Guichard³ recommended glycerin as a substitute for sugar when a syrup was directed to be prepared from a drug extract. Molasses was suggested by F. Goldby⁴ as a syrup substitute during World War I for syrups of senna, rhubarb and poppy capsules. In suggesting saccharin as a sugar substitute, H. Helch⁵ found the amounts required to equal the sweetness of sugar syrups with the specific gravity of 1.30 and 1.33. C. P. Wimmer⁶ suggested two "War Emergency Formulas" for syrups to be used as substitutes for the official syrup of the United States Pharmacopœia. One contained glucose, saccharin and water, while the other contained crystal-white Karo, saccharin and water. E. O. Von Lippman⁷ pointed out that honey and molasses were used as syrup substitutes in the twelfth century. In view of the 20 per cent restriction on cane sugar in the last war, S. T. Hensel⁸ suggested a formula for a saccharin solution comparable to syrup in sweetness. The relative sweetening power of sugar substitutes was reported by the United States Department of Agriculture⁹ to be as follows: sugar 100, honey (44° B.) 75, corn sugar 45, maltose syrup (42° B.) 30, corn syrup (45° B.) 20. W. A. Uglow¹⁰ found that Dulcin was dangerous for constant use as a sweetening agent. A concentrated sugar syrup containing cane sugar and invert sugar was recommended to the drug industry¹¹ as a substitute for the official syrup because of its high stability against molds and yeasts. Sionon (*d*-sorbitol) was recommended as a sugar substitute by H. Reinwein¹² but he pointed out that doses exceeding 70 Gm. cause diarrhea.



Recently, the British Pharmaceutical Codex Committee¹³ have endeavored to find a suitable syrup substitute. A satisfactory substitute for all syrups was not found but the formula used in the last war has received the most attention. It has the following composition:

Tragacanth powder.....	2.5 Gm.
Alcohol, a sufficient quantity	
Chloroform.....	0.25 Gm.
Soluble Saccharin.....	0.25 Gm.
Distilled Water, <i>q. s.</i>	100 cc.

Several other gums were investigated because of the fluctuation in the availability of tragacanth and because tragacanth was not always found to be the most suitable. If no more than a 25 per cent reduction of sugar was wanted, the following formula was satisfactory:

Mucilage of acacia.....	25 cc.
Syrup, <i>q. s.</i>	100 cc.

The following formulas were stable for four months:

I

Gum tragacanth.....	2.0 Gm.
Glycerin, a sufficient quantity	
Nipagin M.....	0.1 Gm.
Soluble Saccharin.....	0.1 Gm.
Water, <i>q. s.</i>	100.0 cc.

II

Karaya Gum.....	1.0 Gm.
Glycerin, a sufficient quantity	
Nipagin M.....	0.1 Gm.
Soluble Saccharin.....	0.1 Gm.
Water, <i>q. s.</i>	100.0 cc.

In these formulas, glycerin was used merely to form a cream and to increase miscibility. Another possibility is syrup of althea of the British Pharmacopœia Codex which contains 4 per cent of althea, 90 per cent of sucrose, 0.25 per cent of chloroform, and 56 per cent of distilled water. From syrup of althea, a good syrup substitute can be made by increasing the althea to 6 per cent and by replacing the sugar with 0.1 per cent soluble saccharin. In making syrup substitutes of the above types, the mucilages were brought to the boiling point and were allowed to digest for a half an hour before straining through flannel. None of the above syrup substitutes were found to be satisfactory for Parrish's or Easton's syrups.

C. H. Sykes¹⁴ stated that the following syrup substitute has been used by the London Hospital since April 1941:

P.M.B. #444 (May & Baker, Ltd.)	44 gr.
Chloroform.....	96 min.
Soluble Saccharin.....	56 gr.
Water, <i>q. s.</i>	1 gal.

The disadvantages of this formula were stated to be as follows: (1) The P.M.B. #444 (methyl cellulose) separated out in the form of a flocculent precipitate in the presence of a high concentration of alcohol or electrolyte; (2) syrups made by this formula were difficult to strain since the methyl cellulose blocked the openings of the straining cloth.

EXPERIMENTAL

A series of artificial syrups containing a water-soluble gum as thickening agent and sweetened with soluble saccharin were prepared about one year ago. They were flavored with artificial fruit essences and buffered to a pH of 4.8 with 1.3 per cent of citric acid and 4.4 per cent of sodium citrate. The high concentration of buffer salts was used in order to observe the effect of the addition of an electrolyte on the gum solution. As a preservative a combination of 0.02 per cent of Butoben and 0.1 per cent of benzoic acid was used. The thickening agents with amounts used were as follows:

- 8 per cent citrus pectin #100,
- 3.1 per cent Tylose (methyl cellulose),
- 2 per cent extra high viscosity Methocel (methyl cellulose),
- 2 per cent Gelloid (irish moss),
- 18 per cent acacia,
- 1½ per cent tragacanth,
- 1 per cent locust bean gum,
- 1.5 per cent Iscoalglin (purified alginate),
- 3 per cent Orbalgin (purified alginate),
- 3 per cent apple pectin #210,
- 3 per cent Kelgin (sodium alginate),
- 8 per cent apple pectin #100,
- 3 per cent karaya gum,

A combination of 50 per cent glycerin and 20 per cent sorbitol.

Syrups containing Tylose, Methocel and acacia were unsatisfactory directly after preparation. The syrups containing the Orbalgin, apple pectin #210, citrus pectin #100, apple pectin #100, karaya gum, Iscoalglin and the combination of

20 per cent sorbitol and 50 per cent glycerin contained sediments after one month's storage at room temperature. The syrup containing Geloid showed a few coarse particles in suspension after one year at room temperature, but it was considered satisfactory. The syrups containing Kelgin, tragacanth and the locust bean gum were of satisfactory stability after storing for one year at room temperature.

Since the syrup containing the Kelgin was quite viscous, 2 per cent would probably be more satisfactory than the 3 per cent used in the above experiment. It is interesting to note that a syrup containing 3 per cent apple pectin #210 adjusted to a pH of 5.2 jellied after six months while a similar syrup adjusted to a pH of 3.9 had only a small amount of sediment after thirteen months' storage at room temperature.

SUMMARY

1. Artificial syrups of satisfactory stability prepared with sodium alginate, irish moss, tragacanth and locust bean gum as thickening agents

and soluble saccharin as sweetening agent have been prepared.

2. Syrup substitutes containing two grades of methyl cellulose namely Tylose and Methocel were found to be unsatisfactory. These results are in agreement with the results of C. H. Sykes.¹⁴

3. Because of the uncertainty of the supply of tragacanth and locust bean gum during the present world conflict, domestic sodium alginate and irish moss will probably receive more attention in the future.

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A NEW WASHABLE OINTMENT BASE

by EMERSON C. BEELER

MEMBER OF THE LABORATORY STAFF, AMERICAN PHARMACEUTICAL ASSOCIATION

A NEW BASE WHICH CAN BE EASILY PREPARED BY ANY PHARMACIST, IS APPARENTLY COMPATIBLE WITH DRUGS USED IN TREATING SKIN CONDITIONS, AND CAN BE MADE UP AS A STOCK BASE FOR EXTEMPORANEOUS USE

ogists believe that these new bases permit a better penetration of medication and allow the heat of an inflamed area to escape. Certainly they are more pleasant to use.

Although countless formulas for such bases have appeared in the literature, none so far has been fully satisfactory. Various authors^{1, 2, 3} have described an ideal ointment base as one which is:

AMONG the more important developments in dermatology is the current trend away from greasy ointment bases and toward the so-called "washable" ointment bases which are oil-in-water emulsions of ointment consistency. Dermatol-

1. Stable
2. Neutral in reaction
3. Non-greasy
4. Not degreasing in action
5. Non-irritating

6. Non-dehydrating
7. Non-hygroscopic
8. Removable by washing with water
9. Compatible with all medication
10. Free from objectionable odor
11. Non-staining
12. Efficient on dry, oily or moist skins
13. Capable of serving as a medium for chemicals soluble in either water or fats
14. Capable of stock preparation for extemporaneous use
15. Composed of readily available ingredients of known chemical composition
16. Capable of holding at least 50 per cent of water
17. Easily compounded by the pharmacist

A number of the washable ointment bases which have been suggested in the literature are under study in the Laboratories of the AMERICAN PHARMACEUTICAL ASSOCIATION as has been described in THIS JOURNAL,⁴ but all have been found to fall far short of the ideal. Some bases are incompatible with many of the medicaments commonly prescribed by dermatologists. Others are apparently reversed by certain medicaments and become non-washable. Still others are unnecessarily involved or call for the use of substances which are very difficult to obtain.

Modifications of the suggested bases have been studied and an attempt made to develop a new base which would more nearly approach the ideal. The following base is the product of these studies and, although complete evidence as to its incompatibilities is not as yet available, it appears to be more satisfactory than any other base thus far suggested in the literature. It is apparently compatible with every medicinal substance with which it has been tested and, until a better formula is developed, is suggested for use by the pharmacist.

Cetyl alcohol*	15.0
White wax.....	1.0
Propylene glycol†.....	10.0
Sodium lauryl sulfate*.....	2.0
Water.....	72.0

* Available from E. I. Du Pont de Nemours, Inc., Wilmington, Delaware. The sodium lauryl sulfate for cosmetic use is sold under the trade name Duponol C.

† Available from Carbide and Carbon Chemical Corp., 30 East 42nd St., New York City.

Melt the cetyl alcohol and white wax in the propylene glycol on a water bath and heat to about 65° C. Dissolve the sodium lauryl sulfate in the water and heat on the water bath to about 65° C. Slowly add the oil phase to the

well-stirred water phase and continue stirring on the water bath for about ten minutes. Remove from bath and continue stirring to the point of coagulating.

CETYL ALCOHOL

Cetyl alcohol has the chemical formula $\text{CH}_3(\text{CH}_2)_{14}\text{CH}_2\text{OH}$ and a molecular weight of 242.4. The practical form contains homologues and is manufactured by E. I. Du Pont de Nemours, Inc., of Wilmington, Delaware, and by Givandan-Delewana, Inc., 330 West 42nd St., New York City. It is a white, wax-like solid melting at about 49° C., insoluble in water, soluble in mineral and vegetable oils, fats, alcohols, ether, carbon disulfide, glycol and diglycol ethers. It is stable in the presence of acids, alkalis, light and air. It is used as a hardening agent, emulsion stabilizer and emollient in creams and may be used as additive in 1 to 5 per cent concentration or from 5 to 20 per cent as the principal wax base.

Cetyl alcohol is greaseless, a good emollient, and renders the skin velvety. Its penetrating power in combination with a wetting agent such as sodium lauryl sulfate causes medicaments to be readily transferred through the skin and in some cases they may be used in lower concentrations than in older types of bases such as petrolatum and lanolin.

Creams containing cetyl alcohol must be stirred thoroughly. According to a report in *Drug and Cosmetic Review*,⁵ it does not become effectively hydrated and serve as a stabilizer for the emulsion until it is in a finely divided form. It undergoes no bactericidal decomposition, is non-toxic and soothes irritated skin.

SODIUM LAURYL SULFATE

Wetting agents derived from numerous alkyl derivatives of aryl sulfonates, fatty alcohol sulfates, sulfated fatty alcohol esters of higher fatty alcohols and dibasic acids, esters of sulfosuccinates and many others are of value in preparing more efficient and finer ointment bases. Their effectiveness is based on the power of reducing surface tension and lowering interfacial tension between solid and solvent, thus permitting rapid penetration and dispersion of the solid. By this property they are useful as detergents and penetrants and some of these agents are also efficient emulsifiers.

Sodium lauryl sulfate is one of these agents having all three properties of penetration, deter-



gent and emulsifier combined. The technical product is made by Du Pont under a lead tolerance of 3 parts per million and an arsenic tolerance of 2 parts per million to conform to the present Federal Food, Drug and Cosmetic Act, and is marketed under the trade name of Duponol C. It is a white, flaky solid, soluble in water and is effective in solutions of alkali and metal salts and in low acid concentrations. It hydrolyzes very slowly in creams on the acid side; cosmetic creams at pH 2.2 remained stable for a minimum of six months' shelf testing.

PROPYLENE GLYCOL

Ease of spread and softness are essential to a finer ointment base. Creams made with cetyl alcohol which do not contain a softening agent are not satisfactory. To promote these features the addition of propylene glycol was found to produce an elegant preparation.

Propylene glycol is chemically $\text{CH}_3\text{CHOH}\cdot\text{CH}_2\text{OH}$ and has a molecular weight of 76.1. It is a colorless, practically odorless liquid and is completely miscible with water and many organic solvents. It is a solvent for a variety of dyes, resins, essential oils and other organic substances,

being claimed a better solvent than glycerin. It is equal to ethanol and better than glycerin for inhibiting mould growth and fermentation. The specific gravity of this substance is 1.0381 at $20^\circ/20^\circ \text{ C.}$ and the boiling point is 188.2° C. ; average density is 8.64 pounds per gallon at 20° C. In hand lotions and creams it is used as a softener. Pharmacy and cosmetics may look upon it as a substitute for glycerin and solvent for many therapeutic agents, particularly vitamin D and the "Sulfa" drugs. It is available from Carbide and Carbon Chemicals Corp., 30 East 42nd St., New York City.

This ointment base has been shown to be of the oil-in-water type from the fact that it is easily washable from the skin with water and from microscopic observations which showed the oil phase, stained with the oil-soluble dye Sudan IV, to be dispersed in fine, even-sized particles through the water phase.

pH VALUE

An important factor in determining the desirability of an ointment base is its pH value. Exact pH value of an ointment or ointment base is difficult to determine and its value has not been

established as far as skin pH is concerned. Although the addition of certain therapeutic agents alter the pH of the ointment base, the stability and pH of the ointment are greatly influenced by the pH of the ointment base. So far as can be determined with the aid of the potentiometer and by the application of proper pH indicators, the pH of the ointment base reported here is within the range of 7 to 9 and is decidedly on the alkaline side.

Conclusions drawn as to the range of pH of this ointment base were based on a series of separate determinations. The base was divided into its water phase and its oil phase. It is impractical to determine the pH of the oil phase but with the aid of pH indicators it was possible to determine what effect each of the ingredients would have on the water phase. The water phase, consisting of sodium lauryl sulfate and water, was found to have a pH of 9.2 by potentiometric measurements and 100 Gm. required about 0.8 cc. of twentieth normal sulfuric acid to reach the neutral pH 7, using potentiometric titration in combination with the pH indicator phenol red, which has a pH range of 6.8 to 8.4. The pH of this solution at 7.0 was unaffected by the addition of 13.5 Gm. of propylene glycol which indicates that this ingredient has no effect on pH of the water phase; the amount of propylene glycol added here is the amount in the base when 100 Gm. of water phase are present. A 135.1 Gm. quantity of the base (100 Gm. of water phase plus 35.1 Gm. of oil phase) was prepared as specified and the phenol red pH indicator added to the water phase before adding the oil phase. While hot the base was titrated with twentieth normal sulfuric acid and found to require about 1 cc. of the acid which is not much different from the value of 0.8 cc. required for the water phase alone. In view of these titer values it is probable that the pH of the water phase has been unchanged by the presence of cetyl alcohol and beeswax and that the pH of the ointment base is closely represented by the pH of the water phase which was determined potentiometrically to be around 9.2.

Temperature changes between 0° and 50° C. do not affect the consistency or promote separation of this ointment base. It has been alternately placed in the freezing unit of the refrigerator and in an atmosphere at a 50° C. temperature at a 24-hour interval for a period of two weeks without affecting the general properties in the least. Extremely cold temperatures change the

consistency slightly but do not materially reduce its value as a washable base. No separation occurred at dry ice fusion temperature, -57° C. but autoclaving at 15 pounds' pressure for thirty minutes caused separation into a soft wax layer on top and a thick liquid emulsion layer underneath. It can be claimed for this base that extreme temperatures encountered in transporting this preparation would have little effect on its value as a washable ointment base.

Although stability of this ointment has not been investigated through shelf tests it is fairly certain no change would take place. Several bases containing cetyl alcohol in combination with sodium lauryl sulfate have been prepared in the Laboratory and after seven months on the shelf have not changed in color.

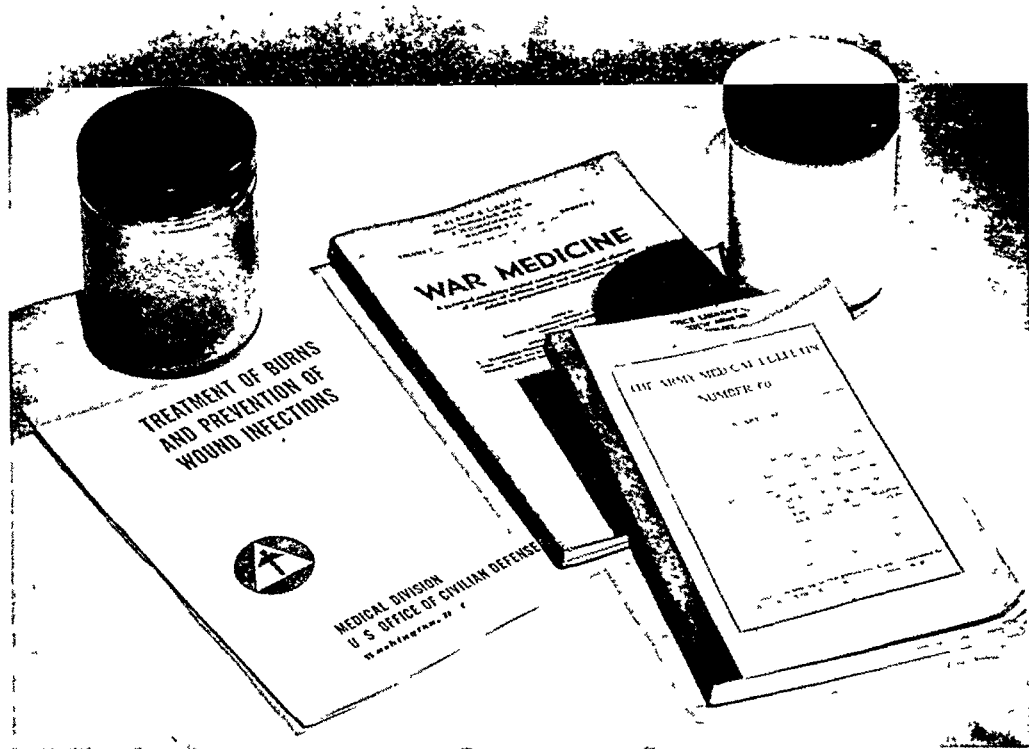
No apparent incompatibilities have been found for this base as far as the experimental work has progressed. Several medicaments extensively used in dermatological practice have been incorporated with success and it is, therefore, of wider application than bases containing triethanolamines and other agents which are affected by acids, alkalis, electrolytes, etc. Thus far, the following ointments have been successfully prepared and in the short period of three weeks have not shown deterioration of any sort:

Coal tar 5%
 Burow's solution 10%
 Sulfur 15%
 Birch tar 10%
 Balsam peru 10%
 Ammoniated mercury 10%
 Ichthammol 5%
 Phenol 2%
 Whitfield combination
 Calamine 17%
 Tannic acid 20% (sodium sulfite 0.2%)
 Tannic acid 10%, Sulfadiazine 5% (sodium sulfite 0.2%)
 Zinc oxide 10%
 Sulfadiazine 5%

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MAKE AVAILABLE THE NEW N. R. C. BURN PREPARATIONS

PROJECT NO. 3 IN A PROGRAM
ON PRODUCTIVE DETAILING

by CHARLES HALL EVANS

CHAIRMAN, COMMITTEE ON PROFESSIONAL RELATIONS

**PREPARE AND DETAIL THE
TANNIC ACID-SULFADIAZINE
JELLY, THE SULFADIAZINE
EMULSION, AND THE TANNIC
ACID-SILVER NITRATE SPRAYS
ON WHICH TREATMENT IS BASED**

BURNS not only account for a large proportion of warfare casualties, but they are a leading cause of peacetime injuries and even deaths. It has been estimated that some 6000 persons in the United States die each year as a result of burns and for each fatal case there are undoubtedly several hundred cases which are

sufficiently serious to require the attention of a physician.

Thus, when the Division of Medical Sciences of the National Research Council, in Washington, makes recommendations on the treatment of burns for the guidance of the Army, the Navy and Civilian Defense Authorities, this information should also be placed before the civilian physicians of the country for use in their practices. Here is a real opportunity for the pharmacist to serve his neighborhood physicians in bringing them the recommendations of the National Research Council and by preparing the jelly, the emulsion and the sprays which they need to follow the suggested therapy.

The detailed recommendations of N. R. C. are published in the *The Army Medical Bulletin* for March 1942; in *War Medicine* for March 1942; and have just been issued in a special booklet entitled, "Treatment of Burns and Prevention of Wound Infections," published by the Medical Division of the U. S. Office of Civilian Defense, Washington, D. C. The latter booklet can be secured from local OCD offices or can be obtained at ten cents a copy (no stamps) from the Superintendent of Documents, Washington, D. C.

The recommended therapy was outlined in THIS JOURNAL for April 1942 (pp. 127-28) and will not be repeated here. Rather, this article will discuss the preparations used in the treatment. This is of the greatest importance, for the National Research Council did not recommend specific formulas for the preparations to be used but merely advised the use of "a water-soluble jelly containing 10 per cent of tannic acid and 5 per cent of sulfadiazine" and "an aqueous emulsion containing 5 per cent of sulfadiazine." To manufacturers and others interested in making such preparations the National Research Council has developed specifications which it believes such products should meet. The specifications have been studied in the Laboratories of the AMERICAN PHARMACEUTICAL ASSOCIATION and formulas for the preparations are suggested herewith for the guidance of pharmacists. Physicians cannot use the new therapy unless someone makes available the preparations needed—why don't you perform this professional service for the physicians in your community? Your local Chief of Emergency Medical Service of OCD will also be interested in the availability of these preparations which are the basis of the OCD burn therapy.

TANNIC ACID-SULFADIAZINE

In the emergency care of a burn it is recommended that the area, other than on the face, hands or genitalia, be covered liberally with a water-soluble jelly containing 10 per cent of tannic acid and 5 per cent of sulfadiazine. The tannic acid precipitates proteins and is used to produce an eschar over the denuded areas in order to prevent the loss of body fluids. The sulfadiazine is used to prevent infection for, although most burns are sterile the instant after they occur, they quickly become contaminated, and infections, usually with a mixture of staphylo-

cocci, hemolytic streptococci, colon bacilli and other organisms, frequently develop—a serious complication if it develops beneath an eschar.

The specifications of the National Research Council for the Tannic Acid-Sulfadiazine Jelly are as follows:

1. The preparation must be washable; easily removed with water or saline solution.
2. The medicament must be uniformly dispersed and be of such particle size that the preparation is free from any gritty feeling—over 80 mesh for powdered drugs.
3. The color of the preparation should be tan to brown. A blue color indicates the presence of excessive iron.
4. The pH of the preparation should be around 7.5.
5. The preparation must be soft enough for easy spreading on burned area, yet firm enough to adhere well to the lesion. It must not permit particles to settle in the container.
6. The preparation must not contain over 500 micrograms of iron per 100 grams of product.
7. It must be stable over a range of temperature from freezing to 130° F. and must be able to undergo temperatures below freezing without having its normal consistency affected when it is brought back to normal temperature range.
8. It must not permit mold or micro-organism growth.
9. It must be protected from excessive discoloration on aging, either by the use of a stabilizer or its method of packaging.
10. It must not dry out or liquefy in the container in a reasonable length of time (1 year).

To meet these specifications the following formula is suggested:

Pectin, N. F. VII.....	5.0
Tannic acid.....	10.0
Glycerin.....	12.0
Sulfadiazine.....	5.0
Methyl parahydroxybenzoate.....	0.2
Sodium sulfite.....	0.2
Ringer's Solution.....	67.6

Mix well the pectin, glycerin and sulfadiazine to a smooth paste. Dissolve the sodium sulfite, methyl parahydroxybenzoate and

the tannic acid in boiling Ringer's Solution and add to the pectin paste, stirring well until it cools down to room temperature.

The following washable ointment base developed in the Laboratories of the AMERICAN PHARMACEUTICAL ASSOCIATION by E. C. Beeler, and described in detail elsewhere in this issue, is an excellent vehicle for 10 per cent of tannic acid and 5 per cent of sulfadiazine:

Cetyl alcohol.....	15.
White wax.....	1.
Propylene glycol.....	10.
Sodium lauryl sulfate.....	2.
Water.....	72.

Melt the cetyl alcohol and white wax in the propylene glycol on a water bath and heat to about 65° C. Dissolve the sodium lauryl sulfate in the water and heat on a water bath to about 65° C. Add the oil mixture to the water mixture slowly and with constant stirring. Continue stirring on the water bath for ten minutes, remove from the bath and continue stirring until congealed.

SULFADIAZINE EMULSION

Tannic acid should not be used on the hands, face or genitalia because the eschar it produces may be sufficiently constricting to damage permanently the muscles and delicate tissues. Therefore, an aqueous emulsion containing 5 per cent of sulfadiazine is recommended for burns on these areas. The N. R. C. specifications for this emulsion are as follows:

1. The preparation must be washable; easily removed with water or saline solution.
2. The medicament must be uniformly dispersed and of such particle size that the preparation is free of any gritty feeling—above 80 mesh for a powdered drug.
3. The preparation should have a pH of about 7.5.
4. The preparation should be soft enough to spread easily on the skin or wound, but firm enough not to flow in the container.
5. It must be stable over a range in temperature from freezing to 130° F. and must be able to undergo temperatures below freezing without having its normal consistency affected when it is brought back to a normal temperature range.

6. It must be resistant to color changes for a reasonable time (1 year). Some sulfonamides are incompatible and discolor in certain stearate type bases.
7. It must be free from tendency to rancidify within a year.
8. It must not permit mold or microorganism growth.
9. It must not dry out either in a closed container or in a container being repeatedly opened for use.

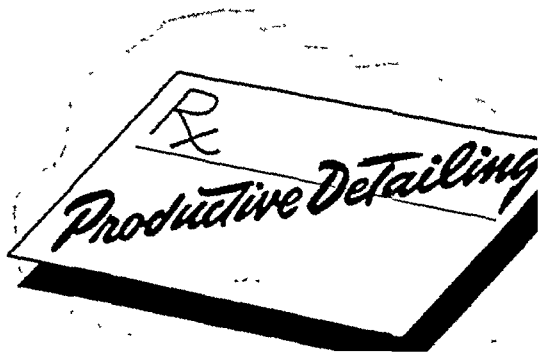
The Laboratories of the AMERICAN PHARMACEUTICAL ASSOCIATION suggest several formulas for this preparation. The first utilizes the washable ointment base developed at the University of California School of Pharmacy, described in THIS JOURNAL for December 1941. The formula for the burn emulsion is as follows:

Hexadecyl alcohol (Cetyl)*.....	6.1
Octadecyl alcohol (Stenol)*.....	6.1
Sodium lauryl sulfate*.....	1.4
White petrolatum.....	13.6
Liquid petrolatum.....	20.5
Sulfadiazine.....	5.0
Water.....	47.3

* Du Pont.

Melt the alcohols together over a water bath at 65° C., add the sodium lauryl sulfate and stir well. Add the white petrolatum and the liquid petrolatum, continuing the heat until the mixture is melted. Add the sulfadiazine and stir until the mixture cools to room temperature. Add the water slowly with constant stirring.

The introduction of pectin in the new National Formulary VII prompts the following suggested formula for the sulfadiazine emulsion:



Ringer's Solution.....	58.0
White petrolatum.....	20.0
Glycerin.....	11.8
Sulfadiazine.....	5.0
Pectin.....	5.0
Methyl parahydroxybenzoate.....	0.2

Wet the pectin and the methyl parahydroxybenzoate with the glycerin, add the Ringer's Solution previously heated to boiling, and stir well to make a smooth paste. Keep the mixture on a water bath and add the sulfadiazine and petrolatum. Remove from water bath and continue stirring until cool.

A third formula, which makes a very satisfactory preparation, is as follows:

Cetyl alcohol.....	10.
Glycerin.....	10.
Sodium lauryl sulfate.....	1.
Sulfadiazine.....	5.
Water.....	74.

The washable ointment base developed by E. C. Beeler in the Laboratories of the AMERICAN PHARMACEUTICAL ASSOCIATION, described in this article under Tannic Acid-Sulfadiazine Emulsion, is an excellent medium for sulfadiazine.

OPHTHALMIC OINTMENT

If the eyes require treatment, the report recommends the single application of a 2 per cent butyn ophthalmic ointment. Abbott Laboratories offer such an ointment.

TANNING SPRAYS

If facilities for definitive treatment, rather than merely emergency care, are available, the report recommends the careful cleansing of the area and tanning as follows:

Two solutions are used:

1. A freshly prepared 10 per cent solution of tannic acid.
2. A 10 per cent solution of silver nitrate.

Two spray guns are used: one gun contains the tannic acid solution and the second contains equal parts of the tannic acid solution and the silver nitrate solution. Less pain is caused if the tannic acid solution is sprayed on first, followed immediately with the tannic acid-silver

nitrate solution. The tannic acid-silver nitrate solution is sprayed on every half hour for four applications. If the tan is still inadequate, the spraying is continued once an hour until the result is satisfactory.

ORAL CHEMOTHERAPY

The report recommends the administration of 1 Gm. of sulfadiazine every 6 hours, day and night, for ten days in cases of suspected infections.

USE THIS PROGRAM

This discussion of the burn preparations recommended by the National Research Council is part of the *Productive Detailing Program* offered by the Professional Relations Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION. Each month the Committee studies the new drugs and new therapies reported in the leading medical journals of the country, selects those which involve the use of medication requiring the services of pharmacists in their compounding.

Through THIS JOURNAL the Committee presents its analyses of the medical reports, giving pharmacists the information they need on formulas and methods of compounding, the advantages of the new preparations, and such other professional material as should be used in presenting the new products to physicians.



READY REFERENCE GUIDE TO OPA-WPB ORDERS

AS OF JULY 15, 1942

ACETYSALICYLIC ACID is covered by an OPA price ceiling which prohibits sales by resellers, including wholesale druggists, in excess of the following prices, f. o. b. the reseller's shipping point: 1-pound cartons, 73 cents; 1-pound canisters, 77 cents; 1-pound bottles, 82 cents. Pharmacists must keep available for inspection for one year their wholesaler's invoices showing the date of sale, name and address of buyer and seller, price paid, specifications, and quantity including kind and size of container.

AGAR may not be purchased, sold or used except as specifically ordered by the Director of Industry Operations of WPB or for incorporation into bacteriological media. Purchasers of agar for bacteriological media must furnish the seller a written statement in duplicate, manually signed by a responsible official, in substantially the following form:

"I require pounds of agar for incorporation into bacteriological media. I have pounds in my possession or under my control, leaving a shortage of pounds which I must fill by purchase."

Name.....
Address.....

The use or sale of stocks of agar of less than 50 pounds on hand February 9, 1942, are exempt from the order.

ASCORBIC ACID is covered by an OPA price ceiling which prohibits sales by resellers, including wholesale druggists, in excess of the following prices, f. o. b. the reseller's shipping point: 1 to 5 ounces, \$2.41 an ounce; 5 to 25 ounces, \$2.30 an ounce; 25 to 50 ounces, \$2.24 an ounce; 50 to 100 ounces, \$2.20 an ounce; 100 to 500 ounces, \$2.17 an ounce; 500 to 1000 ounces, \$2.16 an ounce; 1000 ounces or more, \$2.15 an ounce. No additional charge for containers may be made. Pharmacists must keep available for inspection for one year their wholesaler's invoices showing the date of sale, name and address of buyer and seller, price paid, specifications, and quantity including kind and size of container.

CINCHONA BARK in stocks of more than 50 pounds physically located at any one place on April 4 may not be sold, transferred, delivered, purchased, accepted, processed or combined with other materials except for primary use for the extraction of quinine or totaquine. Cinchona bark which had been combined or compounded

with other medicinal agents on or before April 30 is exempt from the order.

Stocks of over 50 pounds must be reported to WPB on Form PD-401.

Sales, transfers and deliveries of cinchona bark may be made only upon receipt of a certificate manually signed by the purchaser or the person accepting the transfer or delivery, or a duly authorized official in substantially the following form and specifying on the reverse side the quantity involved in the transaction.

"I hereby certify that the cinchona bark ordered hereby is for primary use for the extraction of quinine on totaquine and will not be sold, transferred or delivered by me for any other purpose. This certification is made in accordance with the terms of General Preference Order No. M-131 with which I am familiar."

Name.....
By.....

CINCHONIDINE alkaloid, its salts and derivatives, may not be sold, transferred, delivered, purchased, accepted, processed or combined with other materials except for use as an anti-malarial agent. Cinchonidine which had been combined or compounded with other materials on June 19 is exempt from the order.

Stocks of cinchonidine which with stocks of cincholine and/or quinidine on hand June 19 totaled more than 10 ounces, had to be reported to WPB on Form PD-401A by July 10.

Sales, transfers and deliveries of cinchonidine, except to ultimate consumers, may be made only upon receipt of a certificate manually signed by the purchaser or the person accepting the transfer or delivery, or a duly authorized official in substantially the following form and specifying on the reverse side the quantity involved in the transaction.

"The undersigned hereby certifies that the cinchonidine (or product containing cinchonidine) ordered hereby is for use as an anti-malarial agent and will not be sold, transferred or delivered by the undersigned for any other purpose. This certification is made in accordance with the terms of Conservation Order No. M-131-a with which the undersigned is familiar."

Name.....
Date
By.....

CINCHONINE alkaloid, its salts and derivations, may not be sold, transferred, delivered, purchased, accepted, processed or combined with other materials except for use as an anti-malarial

agent. Cinchonine which had been combined or compounded with other materials on or before June 19 are exempt from the order.

Stocks of cinchonine which with stocks of cinchonidine and/or quinidine on hand June 19 totaled more than 10 ounces, had to be reported to WPB on Form PD-401A by July 10.

Sales, transfers and deliveries of cinchonine, except to ultimate consumers, may be made only upon receipt of a certificate manually signed by the purchaser or the person accepting the transfer or delivery, or a duly authorized official in substantially the following form and specifying on the reverse side the quantity involved in the transaction:

"The undersigned hereby certifies that the cinchonine (or product containing cinchonine) ordered hereby is for use as an anti-malarial agent and will not be sold, transferred or delivered by the undersigned for any other purpose. This certification is made in accordance with the terms of Conservation Order No. M-131-a with which the undersigned is familiar."

Name
Date
By

CITRIC ACID is covered by an OPA price ceiling which prohibits sales by resellers, including wholesale druggists, in excess of the following prices, f. o. b. the reseller's shipping point: in 5-pound containers—granular, fine granular, crystal, or powdered, 38 cents a pound; anhydrous, granular and fine granular, 41 cents a pound; anhydrous powdered, 42 cents a pound. No additional charge for containers may be made. Pharmacists must keep available for inspection for one year their wholesaler's invoices showing the date of sale, name and address of buyer and seller, price paid, specifications, and quantity including kind and size of container.

COMBINATION SETS, in the retailer's stock on June 15, 1942, containing shaving cream or toothpaste in tubes, the values of which products do not exceed 25% of the total value of the package, may be sold without requiring used tube exchange if the sets are delivered or sent direct by the retailer to a member of the U. S. Army, Navy or Coast Guard.

COST-OF-LIVING commodities, under the terms of the General Maximum Price Regulation, must be marked with their maximum prices in a manner plainly visible to, and understandable by, the public. The price may be marked on the commodity, on the shelf or bin, or on a sign near the goods. The price must be stated as follows: "Ceiling Price \$...." or "Our Ceiling \$." Cost-of-living commodities carried by most drug stores, are cigarettes, smoking tobacco, aspirin

tablets, milk of magnesia (liquid), cod liver oil (liquid), epsom salts, boric acid, castor oil, mineral oil, witch hazel, rubbing alcohol, hand and toilet soaps, dentifrices (paste, powder and liquid), shaving cream, tooth brushes, sanitary napkins, razor blades, facial tissues, all types of infant food, bulk and packaged ice cream, and toilet paper.

A statement of maximum prices charged for cost-of-living commodities had to be filed with Local Price and Rationing Boards by July 1. This list must be kept up to date by filing, on the first day of each month, a statement of the maximum prices for any cost-of-living commodities newly offered for sale during the month.

MAXIMUM PRICES of every commodity in the store must be listed in a statement which the retailer keeps available for examination by any person who requests it.

PRICES charged by retailers for commodities and services, under the terms of the General Maximum Price Regulation, must not be higher than the seller's maximum price charged for such commodity, or service during the month of March, 1942. In the case of a commodity or service which the retailer did not sell or render during March the maximum price is the price at which he offered that commodity or service during March. In the case of a commodity or service which he did not sell or offer during March the maximum price is the maximum price of the similar item on which he had the greatest volume of sales during March. If the retailer has no similar item to use as a guide he must charge no more for the commodity or service than his most closely competitive retailer charged for the same or similar commodity or service. If none of these methods is applicable the G. M. P. R. prescribes a formula for the retailer to determine the maximum price subject to the approval of OPA.

QUINIDINE alkaloid, its salts and derivatives, may not be sold, transferred, delivered, purchased, accepted, processed or combined with other materials except for use

- (1) as an anti-malarial agent,
- (2) in the treatment of cardiac disorders.

Quinidine which had been combined or compounded with other materials on June 19 is exempt from the order.

Stocks of quinidine which with stocks of cinchonine and/or cinchonidine on hand June 19 totaled more than 10 ounces had to be reported to WPB on Form PD-401A by July 10.

Sales, transfers and deliveries of quinidine, except to ultimate consumers, may be made only upon receipt of a certificate manually signed by

the purchaser or the person accepting the transfer or delivery, or a duly authorized official in substantially the following form and specifying on the reverse side the quantity involved in the transaction:

"The undersigned hereby certifies that the quinidine (or product containing quinidine) ordered hereby is for use (1) as an anti-malarial agent, or (2) in the treatment of cardiac disorders, and will not be sold, transferred or delivered by the undersigned for any other purpose. This certification is made in accordance with the terms of Conservation Order No. M-131-a with which the undersigned is familiar."

Name.....

Date.....

By.....

QUININE alkaloid and its derivative salts may not be sold, transferred, delivered, purchased, accepted, processed or combined with other materials except for use as

- (1) an anti-malarial agent,
- (2) an ingredient of quinine and urea hydrochloride for hypodermic use.
- (3) an ingredient of quinine and urethane.

Quinine which had been combined or compounded with other medicinal agents on or before April 4 is exempt from the order.

Stocks of more than 50 ounces in the form of solutions, pills, tablets or capsules (but not including quinine combined with other medicinal agents before April 30) physically located at any one place on April 4 must be reported to WPB on Form PD-401.

Sales, transfers and deliveries of quinine and its salts, except to ultimate consumers, may be made only upon receipt of a certificate manually signed by the purchaser or the person accepting the transfer or delivery, or a duly authorized official in substantially the following form and specifying on the reverse side the quantity involved in the transaction:

"I hereby certify that the quinine (or product containing quinine) ordered hereby is for use as (1) an anti-malarial agent (2) an ingredient of quinine and urea hydrochloride or hypodermic use, or (3) an ingredient of quinine and urthane, and will not be sold, transferred or delivered by me for any other purpose. This certification is made in accordance with the terms of General Preference Order No. M-131 with which I am familiar."

Name.....

By.....

SALICYLIC ACID is covered by an OPA price ceiling which prohibits sales by resellers, including wholesale druggists, in excess of the following prices, f. o. b. the reseller's shipping point: one pound cartons, 60 cents a pound. No additional charge may be made for containers. Pharmacists must keep available for inspection for one year their wholesaler's invoices showing the date of

sale, name and address of buyer and seller, price paid, specifications, and quantity including kind and size of containers.

SAMPLES of products packed in tubes may be delivered without requiring a used tube turn-in if the samples were manufactured prior to June 15, 1942, and if such samples are distributed indiscriminately.

SANITARY NAPKINS, including all absorbent dressings sold for use by women during the menstrual period, the wadding of which is composed of wood cellulose in any proportion, are under OPA Price Regulation No. 140 which freezes the retail price of a package of 12 to 22 cents. Prices are frozen per sanitary napkin in different quantities as follows

Count per Package	Maximum Retail Price per Napkin
1 to 7, inclusive.....	\$.02125
8 to 12, inclusive.....	.01900
12 .....	.01834
13 to 72, inclusive.....	.01670
73 and above.....	.01500

SHAVING PREPARATIONS in tin tubes may not be sold to an ultimate purchaser unless such purchaser delivers to the retailer concurrently with his purchase one used tube of any kind for each tubed product delivered to such purchaser.

TIN TUBES containing unrestricted percentages of tin may be used only for preparations compounded extemporaneously for dispensing by pharmacists on legally constituted prescriptions of physicians, dentists or veterinarians; for ointments and other preparations for ophthalmic use; for solutions for hypodermic injections; for sulfonamide ointments; for blood plasma; for diagnostic extracts (allergens); and for pile pipes. Pharmacists who buy empty tin tubes for prescription use must furnish a certificate in the following form:

Certificate required by Paragraph (e), sub-paragraph (1) of Conservation Order M-115. One copy of this certificate is to be delivered to each tube manufacturer from whom the tube user purchases tubes and is to cover all purchases present and future, so long as such Conservation Order, in its present form or as it may be amended from time to time, remains in effect.

..... (Tube User's Address) (Date)

In accordance with paragraph (e), sub-paragraph (1) of Conservation Order M-115 of the War Production Board designed to conserve the amount of tin used in collapsible tubes, the undersigned hereby certifies—and this shall constitute a certification to the War Production Board—

that the undersigned is familiar with the terms of said Conservation Order, and any and all amendments thereto, and that the undersigned will not use any tubes purchased from

.....
(Name of Tube Manufacturer)

.....
(Address of Tube Manufacturer)

in violation of the terms of said Order and amendments.

.....
(Legal Name of Tube User)

By.....
(Authorized Official)

.....
(Title of Official Reporting)

Tubes containing not more than $7\frac{1}{2}$ per cent of tin by weight may be used only for medicinal and pharmaceutical ointments not included above, for preparations intended for introduction into body orifices not included above, for dental cleaning preparations, and for shaving preparations, but only if the person using tubes for such purposes used such tubes prior to January 1, 1941. Pharmacists purchasing shaving preparations or dental cleansing preparations in tubes must furnish a certificate in the following form:

Certificate required by paragraph (e), sub-paragraph (2) of Conservation Order M-115. One copy of this certificate is to be delivered to each distributor from whom the retailer purchases tubes and is to cover all purchases present and future, so long as such Conservation Order, in its present form or as it may be amended from time to time, remains in effect.

.....
(Retailer's Address)

.....
(Date)

In accordance with paragraph (e), sub-paragraph (2) of Conservation Order M-115 of the War Production Board designed to conserve the amount of tin used in collapsible tubes, the undersigned hereby certifies—and this shall constitute a certification to the War Production Board—that the undersigned is familiar with the terms of said Conservation Order, and any and all amendments thereto, and that the undersigned will not use any tubes purchased from

.....
(Name of Tube Manufacturer or Distributor)

.....
(Address of Tube Manufacturer or Distributor)

in violation of the terms of said order and amendments

.....
(Legal Name of Retailer)

By.....
(Authorized Official)

.....
(Title of Official Reporting)

TOOTH PASTE in tin tubes may not be sold to an ultimate purchaser unless such purchaser delivers to the retailer concurrently with his purchase one used tube of any kind for each tubed product delivered to such purchaser.

TOTAQUINE may not be sold, transferred, delivered, purchased, accepted, processed or combined with other materials except for use as an anti-malarial agent. Totaquine which had been combined or compounded with other medicinal agents on or before April 30 is exempt from the order.

Sales, transfers and deliveries of totaquine, except to ultimate consumers, may be made only upon receipt of a certificate manually signed by the purchaser or the person accepting the transfer or delivery, or a duly authorized official in substantially the following form and specifying on the reverse side the quantity involved in the transaction.

"I hereby certify that the totaquine (or product containing totaquine) ordered hereby is for use as an anti-malarial agent and will not be sold, transferred or delivered by me for any other purpose. This certification is made in accordance with the terms of General Preference Order No. M-131 with which I am familiar."

Name.....

By.....

USED TIN TUBES must not be disposed of except as follows:

- (1) To the Tin Salvage Institute, 411 Wilson Ave., Newark, N. J., as agent for Metals Reserve Company.
- (2) To any wholesaler of products packed in tubes, who is a duly authorized representative of the Tin Salvage Institute as agent for the Metals Reserve Company.
- (3) To any other person who is such a representative.

Such deliveries may be made by such retailers at any time and in any manner consented to by the person to whom delivery is to be made, and shall be made, upon demand of such person and at the expense of such person, in such manner and at such time as such person may request. In no case shall any consideration be paid or received for any used tubes so delivered, and no person shall deliver any used tube of any kind to any person except those designated above.

VITAMIN C see ASCORBIC ACID.

Extra copies of this Ready Reference Guide may be obtained at five cents each by addressing a request to the Journal of the AMERICAN PHARMACEUTICAL ASSOCIATION, 2215 Constitution Ave., Washington, D. C.

Druggists' Digest

OF NEW FORMULAS, RECENT PHARMACEUTICAL DEVELOPMENTS, AND OTHER PROFESSIONAL DATA

BRITISH FORMULARY ADOPTS BENZYL BENZOATE PRODUCT

Out of extensive studies of the use of benzyl benzoate in the treatment of scabies, and experiments with its incorporation in various solutions, suspensions, and emulsions, the Ministry of Health of Great Britain has accepted the following formula for inclusion in the National War Formulary.

Benzyl benzoate.....	25 Gm.
Lanette wax, SX.....	2 Gm.
Water, q. s.....	100 cc.

Melt the Lanette wax, SX, on a water bath, add the benzyl benzoate, mix, pour into the previously warmed water, and stir thoroughly.

The application is applied with a brush.

Lanette Wax SX was formerly manufactured by E. I. Du Pont de Nemours & Co., but was discontinued. Du Pont advises that the following formula gives a preparation which produces an effect equivalent to Lanette Wax:

Cetyl alcohol flakes.....	9 parts
Duponol C (Du Pont).....	1 part

BASES FOR OPHTHALMIC OINTMENTS OF SULFA DRUGS

N. C. Elvin, of Brooklyn, N. Y., suggests the following three bases for ophthalmic ointments containing sulfathiazole or sulfanilamide:

I

Sodium alginate.....	4
Boiling water.....	75
Emulsify and strain, stir until cool.	
Add:	
Lanum (anhydrous).....	16
Petrolatum, white.....	78
Sodium chloride.....	1
(dissolved in 4 parts of water)	

II

Sodium lauryl sulfate.....	0.5
Cetyl alcohol.....	8.0
Ol. theobroma.....	6.0
Petrolatum (white).....	20.0
Water.....	65.0

III

Liquid petrolatum.....	35.
Spermaceti.....	13.
Glycostearin*.....	10.
Water.....	38.

Heat first three ingredients to 140° F.; add to water heated to same temperature, and stir until cool.

Before the sulfathiazole or sulfanilamide is added to an ointment base the drug should be sifted and a paste made with an equal amount of boiling water.

—*Arch. Ophthalm.*, 27, 2, 373-374

* Glyco Products

HEXESTROL, A NEW STILBESTROL

The Council on Pharmacy and Chemistry of the American Medical Association has adopted *Hexestrol* as the non-proprietary name for dihydrodiethylstilbestrol, a hydrogenated form of stilbestrol.

The Council reported that a pharmaceutical manufacturer had advised that it was beginning to manufacture this new drug for clinical investigation prior to its introduction.

From available information, Hexestrol appears to be somewhat less active therapeutically than stilbestrol or stilbestrol dipropionate but far less toxic. This is an important factor, for the nausea, vomiting and other toxic side actions of stilbestrol have been the chief disadvantages to the use of this drug.

SULFATHIAZOLE OINTMENT IN THE TREATMENT OF BURNS

Dr. J. G. Allen, F. M. Owens, Jr., B. H. Evans and L. R. Dragstedt, of the Department of Surgery, University of Chicago, report the use of a 20 per cent ointment of sulfathiazole in Aquaphor (Duke Laboratories) in two cases of burns which were so extensive that during the first week of treatment one pound of the ointment was applied daily to each patient. Despite the fact that this daily application of ointment represented 100 Gm. of sulfathiazole, urinalyses failed to disclose the excretion of more than 2.0 Gm. per 24 hours in one case and 1.5 Gm. per 24 hours in the other and the total sulfathiazole in the circulating blood failed to exceed 1.5 mg. per cent except in one case in which the drug was given by mouth in addition to the ointment. The ointment gave relief from pain in less than an hour and the cases healed most satisfactorily.

The authors state that sulfathiazole was used because of its wide range of effective bacteriostasis and because it is effective against the common pathogens. They state that the most desirable concentration of the drug for ointment use has not as yet been determined but the 20 per cent strength gives rise to no harmful effects.

The 20 per cent sulfathiazole ointment has been widely employed in the University of Chicago Clinics during the past ten months in the treatment of superficial ulcerating areas, abrasions, infected superficial wounds, and in the impregnation of gauze pads used in various surgical wounds. The results have been gratifying in the more than 150 cases in which the ointment has been used. The greatest benefit has been observed in cases of infection caused by staphylococcus, streptococcus or *Bacillus coli*. The least benefit has been in wounds infected with the common anaerobic organisms.

—*Arch. of Surg.*, 44,5 (May 1942), 819-828

1940 CENSUS STUDY SHOWS 81,924 PHARMACISTS IN PRACTICE

FIRST DETAILED STUDY OF OCCUPATIONAL EMPLOYMENT THROWS NEW LIGHT ON OUR PERSONNEL PROBLEMS

DURING the week of March 23 to 30, 1940, there were 81,924 pharmacists in the active practice of the profession in the United States, according to the Bureau of Census which last month released the report of its first detailed study of occupational employment. The figure of 81,924 is in sharp contrast to the 107,322 total of pharmacists registered with state boards of pharmacy throughout the country and indicates that a number of pharmacists who are registered in more than one state are counted once for each license they hold, and that state lists contain the names of individuals who are engaged in other activities, who have retired, or are deceased.

Of the 81,924 practicing pharmacists in the country, 78,708, or 96 per cent, are men and 3216, or 4 per cent, are women.

Insurance companies have estimated that 2.6 per cent of the men and women engaged in the practice of pharmacy die or retire each year. Applied to the 81,924 figure this means that a replacement of 2126 individuals is needed to maintain 1940 levels of personnel in the field. There were 2387 pharmacists registered by examination in 1940, according to the National Association of Boards of Pharmacy. But only 1511 men and women were graduated by the colleges of pharmacy of the country that year; the remaining 876 individuals who were registered apparently being duplicate registrants, holdovers, or some non-graduates who were registered on the basis of practical experience alone.

A detailed breakdown of the Bureau of Census figures, together with figures supplied by the

boards and colleges of pharmacy for 1940, appears with this article.

Some important changes in the figures have, no doubt, occurred since 1940 and these changes will show what has happened to the personnel of the profession as the result of enlistment, selective service, the demands of war industries, and other

developments. The state associations, the boards of pharmacy and the schools and colleges of pharmacy are now furnishing the data for 1942 to the AMERICAN PHARMACEUTICAL ASSOCIATION as this information is necessary in the effort to secure the continued deferment of necessary pharmacists, and of teachers and students of pharmacy.

PHARMACISTS PERSONNEL STATISTICS—1940

State	Stores, 1939 U. S. Census	Pharm Regis St. Bd.	Pharmacists		Replac- ment 2.6%	Regis 1940 by Exam.	Reciprocity		Gradu- ates	Students	
			Men	Women			In	Out		Men	Women
Ala.	833	1300	852	33	23	29	4	16	42	147	4
Ariz.	194	400	313	10	9	3	17	1	..	..	..
Ark.	704	846	699	26	19	4	12	20	..	..	..
Calif.	3285	8800	6204	287	169	133	..	..	56	215	24
Colo.	658	1242	999	68	28	18	12	18	25	78	22
Conn.	896	1856	1264	45	34	58	5	3	30	150	12
Del.	121	188	123	5	4	8	3	1	..	..	..
D. C.	328	900	772	14	19	24	33	18	16	104	4
Fla.	1002	1575	1174	17	31	37	90	3	23	86	12
Ga.	1109	1800	1276	32	34	44	15	30	23	155	7
Idaho	211	315	296	11	8	31	7	9	25	166	14
Ill.	3695	7500	5285	185	142	152	41	30	59	194	26
Ind.	1521	3636	1883	71	51	156	16	22	99	396	44
Iowa	1327	2263	1459	72	40	21	7	25	29	210	19
Kansas	1076	1417	1141	59	31	31	14	22	16	82	8
Ky.	871	1217	1017	41	23	19	11	16	15	94	5
La.	892	1500	1048	84	29	19	24	7	18	75	30
Maine	395	536	400	9	11	2	4	4	..	..	..
Md.	730	1123	1167	28	31	33	16	12	35	141	19
Mass.	2142	3568	3259	111	88	158	8	12	62	366	36
Mich.	2410	4090	3273	125	88	108	2	2	58	472	55
Minn.	1134	1591	1461	89	40	59	11	10	47	165	29
Miss.	626	800	647	19	17	8	5	13	8	40	6
Mo.	2171	4369	2441	104	66	44	22	35	49	249	12
Mont.	285	759	352	23	10	8	3	7	11	49	14
Nebr.	817	2322	903	53	25	30	5	27	30	143	19
Nev.	53	112	90	1	2	45	4	5	..	..	..
N. H.	228	398	225	8	6	11	5	5	..	..	..
N. J.	1811	4145	2637	82	71	65	6	13	46	195	29
N. M.	172	321	222	12	6	27	9	8	..	..	..
N. Y.	6620	14,720	11,498	375	309	312	..	..	83	930	124
N. C.	915	1100	1199	20	32	31	9	4	23	124	26
N. D.	266	336	289	17	8	25	0	13	23	88	9
Ohio	2825	5694	3654	161	99	129	20	29	139	622	73
Okla.	1135	1800	1285	52	35	20	18	26	19	213	8
Ore.	568	986	855	74	24	21	11	3	25	130	38
Penn.	4450	6750	5515	307	151	162	10	73	154	777	113
R. I.	377	561	488	22	13	20	1	4	19	79	12
S. C.	538	688	755	8	20	29	0	6	4	13	1
S. D.	330	425	356	17	10	16	6	8	18	80	9
Tenn.	924	1809	1216	42	33	37	26	10	15	88	2
Texas	3319	5000	3552	133	96	62	45	14	45	289	24
Utah	194	450	249	8	7	4	4	1	..	..	..
Vt.	149	208	127	2	3	13	5	3	..	..	..
Va.	789	1160	1215	31	32	20	24	9	13	101	11
Wash.	860	2178	1283	124	37	68	20	6	77	275	74
W. Va.	477	760	540	16	14	14	3	7	8	59	6
Wis.	1340	1666	1605	74	44	19	11	9	24	105	20
Wyo.	133	142	145	9	4	0	5	10	..	..	..
Totals	57,903	107,322	78,708	3216	2126	2387	629	629	1511	7945	1000

AMERICAN PHARMACEUTICAL ASSOCIATION

OFFICIAL ROSTER FOR 1941-1942

(Committees will be corrected as appointments are made by the President, Chairman of the Council, Chairman of the House of Delegates and Chairman of the Sections)

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Editorial

FACING TODAY'S AND TOMORROW'S PROBLEMS

THOSE who attended the 90th Annual Meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION in Denver, Colorado, last month, came away with a clearer idea of the problems which this profession faces, not only during this war period, but during the difficult period which will follow the war.

The possible conscription of up to approximately 17,000 pharmacists, including the greater majority of those graduating from the colleges of pharmacy, poses real personnel problems. Already there are indications of pressure to lower educational and licensure standards for the duration.

The conscription of thousands of practicing physicians will unquestionably have a profound effect upon the character and form of medical services which the public will receive.

The shortage of raw materials will very largely govern the type, quantity and variety of commodities which pharmacies will be able to make available. Our ideas of therapeutics and essential drugs may of necessity be radically changed during the next few months. Nonessential drugs, nonessential forms of drugs, and nonessential services of pharmacists are going to be eliminated rapidly.



After the war a new set of problems will appear.

The return of large numbers of pharmacists and physicians to civilian practice and the return of millions of other citizens to take

up civilian employment will put a real strain on our economy.

The question of how many "emergency" restrictions and controls will continue on as permanent regulations demands thoughtful consideration.

The further socialization of medical services, which has been in the background for the past several years, will undoubtedly become a real issue after the war.

The fact that large groups of the American people have had first aid training and that countless "technicians" and "apprentices" in the Army and Navy have been handling drugs and medicines, diagnosing minor ailments, and even administering typhoid injections and hypodermic medication, may have a considerable effect on the type of medical service which the public will desire after the war. The armed forces apparently have not felt the need for the safeguards which the civilian public has thrown around the practice of medicine and pharmacy—will there be a "carry over" of this depreciation of the need for qualified practitioners after the war?



If pharmacy is to solve these and other problems, each individual member of the profession will have to pool his efforts and work together with other pharmacists as never before. This ASSOCIATION is prepared to give leadership in its field but it needs the support of the pharmacists of every town, city, county and state in the country if its

programs and policies are to be translated into action. Resolutions adopted by a convention are empty words unless its purposes are carried out in a practical way.

To serve the pharmacists of the country more efficiently and effectively this ASSOCIATION established a headquarters in Washington, D. C., in 1934. Since that time it has gradually increased its Washington staff and its services; elsewhere in this issue is the announcement of the appointment of an Assistant to the Secretary which marks the latest step in the development of the ASSOCIATION's personnel. The individual selected for this position is well qualified for his duties through years of experience in the practice of pharmacy and in Association work. He has a full year ahead of him, for the Denver convention adopted a real program of action.

Of prime importance is the decision to set up a committee to define the function of pharmacy in the war effort, to offer the services of pharmacy to governmental agencies engaged in the prosecution of the war, and to serve in an advisory capacity to these agencies. The one question which has been uppermost in the minds of thousands of pharmacists is, how can they best serve their country during this emergency? What can they do to help maintain civilian health in the face of the conscription of large numbers of physicians? Can they do more to relieve the burdens of the physicians who are left? Can they give greater service in the matter of conserving critical drugs? Can they do more in Civilian Defense Work? These are the questions which this ASSOCIATION will seek to answer. It will serve in a liaison capacity between the individual pharmacist who wants to contribute his full share to the war effort, and the government agencies which need his help. This is a fundamental task and should form the basis of a program of greater utilization of the services, facilities and personnel of this profession.

In seeking to solve the war problems and post-war problems of pharmacy, this ASSOCIATION will continue to work in the future,

as it has in the past, through the state pharmaceutical associations of the country. The emergency has strengthened the bond between state and national associations as was evidenced by the War Meeting of state pharmaceutical association secretaries called by the A. PH. A. last February. Similar meetings will be held in the future if necessary.



It is to be hoped that individual pharmacists will appreciate their stake in these problems and will assume their responsibilities through active membership in their state and national pharmaceutical associations. This is the first step, and a most important one.

For years a few pharmacists have carried the financial and physical burden of solving pharmacy's problems and safeguarding its interests. They have done as good a job as they could with what they had to work with, but nothing in comparison to what they might have done had they had proper support.

The day is past when two-thirds of the pharmacists of the country can coast along while the other one-third does the pedaling. Each and every pharmacist in the country has to measure up to the job. There is a great deal of work to be done during the next year and it will take 90,000 pharmacists to do it right. Each year thereafter will bring its problems. Will you sign up with your state and national associations for the duration—and thereafter?

RESOLUTIONS

Complete text of the resolutions adopted by the AMERICAN PHARMACEUTICAL ASSOCIATION at its Ninetieth Annual Meeting will be found on page 309 of this issue.

NINETIETH ANNUAL MEETING SEES

A. PH. A. SHOULDER WAR PROBLEMS

ASSOCIATION ANALYZES ITS RESPONSIBILITIES IN WAR AND POST-WAR EMERGENCIES AND SETS UP MACHINERY TO CARRY OUT PROGRAM OF LEADERSHIP. WASHINGTON PERSONNEL INCREASED BY APPOINTMENT OF ASSISTANT TO THE SECRETARY, TIES WITH AFFILIATED ORGANIZATIONS TO BE STRENGTHENED, AND AN ENLARGED MEMBERSHIP TO BE SOUGHT

THE full facilities and personnel of the profession of pharmacy were pledged to the prosecution of the war by the 90th Annual Meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION, held at the Shirley-Savoy Hotel, Denver, Col., August 16-21, but with this pledge went the earnest plea that greater consideration be given to the use of pharmacists in the performance of pharmaceutical duties in the Army, the Navy and in other governmental services.

Heading a list of twenty-two resolutions adopted at the meeting was the authorization of the Council to adopt such measures as are necessary to bring about the speedy enactment of the Pharmacy Corps Bill in Congress, and the empowering of the Committee on the Status of Pharmacists in the Governmental Services to take such steps as may be advisable to improve pharmaceutical service in the U. S. Navy.

The ASSOCIATION voted to set up a committee to define the function of pharmacy in the war effort, to offer the services of the profession to governmental agencies, and to offer to serve in an advisory capacity to such agencies. This committee will study particularly the problem of how pharmacists can extend their public health services to balance the withdrawal of physicians, dentists and other practitioners from their communities. The ASSOCIATION also instructed the Committee on Long Range Program of Policy to concern itself with post-war problems in order that the profession may be prepared to deal with them effectively.

It suggested that the current shortage of critical drugs be relieved by collecting excess stocks from practicing pharmacists and offered to assist in the task.

It called attention to the importance of the health of the American people during the emergency and urged Boards of Pharmacy and other law enforcement agencies to maintain their in-

spection activities on the highest level of efficiency and to increase rather than diminish their activities during this period in order to afford every possible protection to public health.

The Denver Meeting was a War Meeting. The program had been stripped of entertainment features and many committee reports were presented only by title while others were omitted entirely in order to provide time for a full discussion of those problems of personnel, facilities and supplies which the present emergency has created. In four days of study and debate, in which representatives of governmental agencies participated, the ASSOCIATION analyzed its war-time responsibilities and its probable post-war problems, planned its program of action, and moved forward with confidence into what will undoubtedly be the most critical year in the history of the profession. But the ASSOCIATION did more than merely plan its program; it set up the machinery to carry it out by increasing its Washington personnel with the appointment of Charles R. Bohrer, of West Plains, Mo., as Assistant to the Secretary; deciding to strengthen its ties with affiliated organizations; and voting to enlist an enlarged membership to help carry the load which must be shouldered if pharmacy is to measure up to its full responsibilities.

PERSONNEL PROBLEMS

Perhaps the most important single problem before the convention was that of maintaining necessary civilian pharmaceutical services, as well as educational and licensure standards, in the face of the ever-increasing withdrawal of personnel by the operation of the Selective Service Act. The ASSOCIATION continued its policy of coöperation in seeing that the armed forces secured the numbers of pharmacists required for pharmaceutical services.

Dean H. Evert Kendig, Chairman of the Committee on Pharmacists in the Government Service, cited the failure of the profession of pharmacy to obtain a clear-cut directive from governmental agencies to local draft boards stressing the need for the judicious selection of pharmacists, and stated that the lack of success in this direction was due to two factors:

1. A difference of opinion among pharmacists as to whether there is an actual or potential shortage in the supply of pharmacists, and

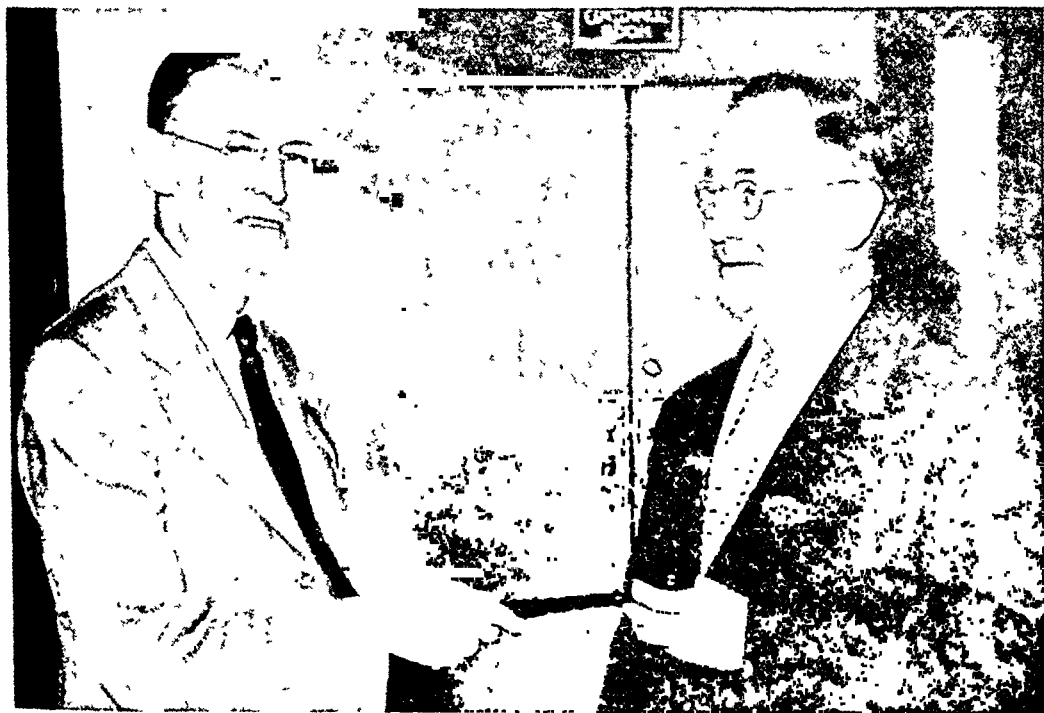
2. The lack of state and local figures to support the statements of pharmacists that a shortage exists in their communities.

"Out of our experience in this and related efforts, we are convinced that the crying need of pharmacy today is a statistical study of every phase of this profession," said Dean Kendig. "Secretary Kelly has made every effort to obtain the data required by the committee, but the response has been insufficient. Unless the various associations, local, state and national, become conscious of their responsibility in this endeavor, promptly make the surveys requested and file

their findings with the A. P. H. A. Headquarters, we will continue to be in an unfavorable position when presenting claims for recognition, or for ordinary justice. The government does not act on the basis of unsupported opinion. It deals in facts only."

Dean Kendig traced the relations between pharmacy and Selective Service officials during the past year and revealed that State Advisory Committees made up of pharmacists were functioning in twenty states to assist officials in conscripting pharmacists without leaving any community without adequate pharmaceutical service. He expressed the opinion that as the war situation becomes more critical such committees will become increasingly necessary, and he urged that all states set up comparable advisory groups as soon as possible.

Such statistical studies as have been made available by state pharmaceutical associations to date have been filed with the War Manpower Commission, Dean Kendig revealed, and that agency is now preparing a new memorandum to Selective Service and he has been assured that pharmacy will be listed among the essential occupations requiring special consideration.



Dr. Roy Bird Cook, of Charleston, W. Va. (left), accepts the gavel with which he will preside over the 1943 Annual Meeting as President of the Association from Dr. B. V. Christensen (right), who served as President this year.

Chairman Kendig reported on the committee's relations with the Surgeon General's office concerning the assignment of pharmacists to pharmaceutical duties and their eligibility to Officer Candidate Schools, as has been reported in previous issues of *THIS JOURNAL*. He stated that pharmacists have comprised 8 per cent of the number of men who have been graduated by the Officer Training School at Carlisle, Pa.

Congress has appropriated \$5,000,000 for loans to students in accelerated courses in engineering, physics, chemistry, medicine, dentistry and

pharmacy, Dean Kendig reported, and it is expected that the loan program will be in operation by the beginning of the fall semester this year.

ENLISTED RESERVE CORPS

Dean Kendig refuted statements that pharmacy students were not eligible for voluntary enlistment in the Army Enlisted Reserve Corps and stated that he had definite assurance from the Surgeon General that students in this profession may apply. He expressed the opinion,

HONORARY PRESIDENT

The AMERICAN PHARMACEUTICAL ASSOCIATION at its Denver Meeting elected James E. Hancock, of Baltimore, Md., Honorary President for the ensuing year.

Mr. Hancock was born on June 17, 1870, the son of Dr. John F. Hancock, a prominent Baltimore pharmacist. He was graduated from Baltimore City College in 1889, planning to continue the study of geology, but his father's poor health compelled him to take charge of his retail and manufacturing firm. He served with

the 5th Maryland Volunteers in the War with Spain, and on his return he joined his father, forming the company J. F. Hancock & Son. His father had previously given up his retail business and confined his activities to manufacturing.

Mr. Hancock took an active interest in the Maryland Pharmaceutical Association, serving as its president in 1911. He was chairman of the Legislative Committee that secured the first Maryland Anti-Narcotic Act and was a member of the commission that drafted the Maryland Food and Drug Act. In 1915 he was elected president of the Baltimore Drug Exchange.

Upon his father's death in 1923, he succeeded him as chairman of the William Procter, Jr., Monument Fund Committee and carried on the work to its completion last year when the monument was placed in the AMERICAN INSTITUTE OF PHARMACY, in Washington.

Mr. Hancock served as chairman of the Military Relief Committee, Baltimore Chapter, American Red Cross, during World War I, and opened the old hospital at Fort McHenry to meet local emergencies. After the war he became chairman of the committee that secured Fort McHenry as a National Shrine to the Birthplace of the Star Spangled Banner. He continued as a member of the advisory committee to the War Department in the restoration of the Fort.

He has served as secretary of the Maryland Historical Society, as president of the Maryland Society of the Sons of the American Revolution, as president of the Society of the War of 1812, as a member of the Board of Managers of the Society of Colonial Wars for Maryland, and is at present president of the Baltimore Eastern Dispensary, vice-president of the Free Summer Excursion Society and member of the Board of Trustees of St. Mary's Industrial School.



JAMES E. HANCOCK

Bachrach

however, that as soon as more favorable consideration of pharmacy students for deferment under Selective Service is established, the Army Enlisted Reserve Corps will become of lesser importance in this field.

NAVY PHARMACISTS

"Preoccupation with the army problems has made it impossible to prosecute a similar program with equal vigor in the Navy," said Dean Kendig. "The pharmacist in the Navy is called upon to perform duties quite different from those of the pharmacist in the Army," he said, "but if a man likes nursing, first aid, minor surgery and general hospital work, the Navy is a good place in which to serve his country."

"Your committee believes the time has now come when attention should be given to the strictly pharmaceutical service in the Navy," said Chairman Kendig. "The Committee recommends that these associations direct it to take such steps as it deems appropriate . . . to bring about improvement in this service and that it proceed to obtain for qualified pharmacists commissioned rank commensurate with their education and the important professional service they render."

Lt. W. Paul Briggs, of the U. S. Navy, addressed the Convention and his explanation of the place of pharmacists in the Hospital Corps appears elsewhere in this issue.

PHARMACY CORPS BILL

Dean Kendig reviewed the work of his committee during the year with reference to the Pharmacy Corps Bill. He explained that introduction of the Bill had been delayed until Congress had enacted the May Bill to remove the limitation in rank from the Medical Administrative Corps, but that as soon as that Bill had been passed in July, Congressman Durham, and later Senator Reynolds, introduced the measure. He stated that committee was developing its plans to steer the Bill through Congress with the assistance of the pharmacists of the country.

"If the Pharmacy Corps is established in the Regular Army, its provisions are such that it can place pharmacy on the same plane as medicine, dentistry and veterinary medicine," said Dean Kendig. "Time will be required for sound organization. The Pharmacy Corps work should be built up by a careful evolutionary process."

We must not be impatient and expect all of the desired results overnight. Worthwhile achievements are not accomplished in a hurry, especially in the Army," he said

WAR PROBLEMS

Representatives of various governmental agencies participated in a symposium on problems of the current emergency before the House of Delegates. Dr. Robert P. Fischelis, Chief of the Health Supplies Section of the Office of Civilian Supply, of the War Production Board, presided. He introduced Dr. R. J. Bullock, of the Office of Price Administration, who defended placing prescriptions under the General Maximum Price Order on the grounds that OPA believes there is a widespread feeling that prices of prescriptions are excessive and that the public would object to price control which did not include these vital necessities. The convention rejected his explanation, passing a resolution expressing its unalterable opposition to the ceiling on professional services included in prescription prices and deploring the action of OPA in releasing through the public press statements relating to the public's view of prescription prices, which statements, "are not supported by objective data and represent mere opinion."

M. J. Ulan, of the Board of Economic Warfare, outlined the work of his division, with particular reference to its efforts to supply quinine and other vital drugs. He cautioned that although BEW is attempting to develop new sources of supply of quinine in Central and South America, in all probability such supplies would not do more than satisfy military requirements.

Dr. John M. McDonnell, Chief of the Health Supplies Section, Statistics Division, of the War Production board, gave a comprehensive outline of the work of the various governmental agencies and urged pharmacists to lend their aid to the war effort by following the letter and spirit of all emergency restrictions which are placed upon them and such conservation measures as they are asked to observe.

RETURN OF QUININE

Dr. Fischelis closed the symposium with an explanation of how the work of the different agencies is interrelated, and in discussing specific problems which have been handled during the past few months. He explained the progressive

OFFICERS ELECTED

The House of Delegates elected the following officers for the ensuing year:

Honorary President, James E. Hancock, of Baltimore.

Secretary, E. F. Kelly, of Washington, D. C.

Treasurer, Hugo H. Schaefer, Brooklyn, N. Y.

Chairman of the House of Delegates, J. K. Attwood, of Jacksonville, Florida.

Vice-Chairman of the House of Delegates, Glenn L. Jenkins, of Lafayette, Indiana.

freezing of quinine and other cinchona alkaloids and said, "Pharmacists are wondering what to do with the quinine they have on hand, if it is to serve any purpose. It seems to me that the proper conservation and return of this quinine in places where it is not needed for anti-malarial use, is a very important function of the pharmacist.

"You might wonder how much quinine there is around in the drugstores of the United States," said Dr. Fischelis. "I can't speak for the whole United States, but we did take an accurate store-to-store survey of the amount of quinine on hand in original packages in the form of alkaloid and alkaloidal salts in the State of New Jersey. The record shows approximately 3800 ounces of quinine in original packages on hand. Of course, that does not include capsules, pills and tablets, nor does it include that which was in open containers, but it is a sufficiently large amount to warrant the supposition that over the United States there is practically available in the drug stores some 200,000 ounces or more of this very necessary drug. And if there is any contribution pharmacy can make at this particular time to the war effort, it is in the gathering up of this stock of needed quinine and bringing it in to centralized places where it could be made available."

POST-WAR PROBLEMS

President B. V. Christensen in his formal address to the convention, published in *THIS JOURNAL* for August, 1942, urged that the *ASSOCIATION* begin now to plan for post-war conditions. "Many of the present needs of pharmacy could have been anticipated, planned for, and met, had our Committee on Long Range

Program been at work long enough ahead of time," he said. "The Committee on Long Range Program or some other appropriate committee should now concern itself with post-war problems so that we will not be facing the aftermath of war as unprepared as we are facing the war period."

POST-WAR PROBLEMS

In an address before the House of Delegates, President Christensen urged that study be given to the effect of restrictions on merchandise stocks, limitations on the use of certain drugs, and the possibility that stocks of drugs and medicines may be limited to necessary health items and the work of the pharmacist limited to the performance of scientific and professional duties connected therewith. Stating that over 50 per cent of the registered pharmacists in the United States are enrolled under the first two Selective Service registrations, Dr. Christensen stressed the fact that there must be a careful selection of those who are to remain in civilian service and those who are to join the armed forces. He called attention to the problem that will be created when pharmacists in the services return to civil life after the war is over and urged that the profession prepare itself for such an increase in available registered pharmacists.

"Possibly the most basic problem is how far will all medical services, including pharmacy, be further socialized as the result of the war and its aftermath," said Dr. Christensen. "The pharmaceutical and medical societies of Great Britain are already giving close attention to the part which each of these professions will take in the post-war health programs and how they can best coöperate in guiding the development of an effective program to meet the changed conditions. Our neighbors in Canada are faced with the same problem and it must be expected that governmental regulations and services already in operation in our country will emphasize and hasten the movement here.

"These problems cannot be solved by a committee, although a committee is essential to take the lead," said President Christensen. "The solution rests with every member of the profession, working in conjunction with every other member and by all organizations—national, state and local—working unselfishly and wholeheartedly for the welfare of the profession and the public it serves."

Dr. Robert L. Swain, in his report as Chairman of the Committee on Legislative Policy, concurred in President Christensen's recommendation, stating "while we cannot possibly know what post-war conditions will be, we do know that they will have their origin in the current social, economic and political trends and philosophies which hold sway here and abroad. Anything which we can do to enable us to adopt a sound, wise and prudent post-war program will find us further along when peace finally comes."

Dr. Swain warned pharmacists to be on guard against proposals to "liberalize" pharmaceutical standards during the present emergency by granting licenses to pharmacists who had been

engaged in the retail drug business for a certain number of years, by abrogating the provision of pharmacy laws which makes it necessary for a pharmacist to be in charge of the pharmacy at all times, or by blanketing all assistant pharmacists into the field of registered pharmacists.

"We are in for a long, hard, bloody war, and are certain to be faced with difficult and exacting problems, but in the long run it may be doubted that anything is to be gained by playing fast and loose with principles fundamental not only to pharmacy, but to the public welfare as well," he said. "We might well take the position that, if a pharmacy cannot operate in compliance with the law, it should not be permitted to operate at all."

NOMINEES FOR 1943-1944

The House of Delegates nominated the following members for office for the 1943-1944 term. The nominations will be submitted for election by mail ballot this fall.

President:

Henry S. Johnson,* New Haven, Conn.,
Dean of the College of Pharmacy of the
University of Connecticut.

C. Leonard O'Connell, Pittsburgh, Dean
of the College of Pharmacy of the Uni-
versity of Pittsburgh.

Charles H. Rogers, Minneapolis, Dean of
the College of Pharmacy of the Univer-
sity of Minnesota.

First Vice-President:

M. N. Ford, Columbus, Ohio, Secretary of
the Ohio State Board of Pharmacy.

Paul G. Stodghill, Denver, Practicing
Pharmacist.

Curt P. Wimmer, New York City, Profes-
sor, School of Pharmacy, Columbia
University.

Second Vice-President:

J. G. Beard, Chapel Hill, N. C., Dean of
the College of Pharmacy of the Univer-
sity of North Carolina.

Oscar Rennebohm, Madison, Wis., Prac-
ticing Pharmacist.

Elbert R. Weaver, Stillwater, Okla., Secre-
tary of the Oklahoma State Pharmaceu-
tical Association.

Members of the Council:

B. V. Christensen, Columbus, Ohio, Dean
of the School of Pharmacy of Ohio State
University.

H. A. B. Dunning, Baltimore, Practicing
and Manufacturing Pharmacist.

Henry H. Gregg, Jr., Minneapolis, Prac-
ticing Pharmacist.

J. Lester Hayman, Morgantown, W. Va.,
Dean of the College of Pharmacy of the
University of West Virginia, and Secre-
tary of the West Virginia State Pharma-
ceutical Association

Paul Molyneux, Mobile, Ala., Practicing
Pharmacist.

George A. Moulton, Peterborough, N. H.,
Practicing Pharmacist and Secretary of
the New Hampshire Pharmaceutical
Association.

John F. McCloskey, New Orleans, Dean of
the School of Pharmacy of Loyola Uni-
versity

F. C. A. Schaefer, Brooklyn, N. Y., Prac-
ticing Pharmacist

Newell W. Stewart, Phoenix, Ariz., Prac-
ticing Pharmacist and Member of the
Arizona State Board of Pharmacy.

* Dean Johnson withdrew his name from nomination following the Annual Meeting and the Council of the Association will nominate a candidate to fill this place before the vote is requested.

NEW BRANCHES

Dean Ernest Little, Chairman of the Committee on Local and Student Branches, reported the organization of six new student branches, the reestablishment of one, and the organization of a new California Branch. He reported that 23 new local and student branches have been organized during the past five years.

PRODUCTIVE DETAILING

Dr. Charles H. Evans, Chairman of the Committee on Professional Relations, explained the new Productive Detailing Program being conducted by his committee through *THIS JOURNAL*, and urged pharmacists to make the fullest use of the unique service which this program provides. Reprints of the first three projects in the series were distributed to those in attendance and a display of the various pharmaceutical products which have been described in the articles was



President Cook receives gifts of a watch and war bond from West Virginia pharmacists and traveling men presented by J. Lester Hayman, of Morgantown, W. Va.

provided so that members could see the type of material which is being covered by the work.

U. S. P. XII AVAILABLE

Dr. George D. Beal, representing E. Fullerton Cook, Chairman of the Committee of Revision of the United States Pharmacopœia, presented the first bound copy of the U. S. P. XII to the ASSOCIATION and stated that copies are now available to the pharmacists of the country.

The U. S. P. XII is the first of the quinquennial revisions and the first to be followed by a bound Supplement to appear midway between revisions. The new Pharmacopœia carries an order blank for this bound Supplement, which is to be supplied to each owner of a Pharmacopœia, without additional payment. The order should not be mailed, however, until the Supplement is announced, which is expected to be in December, 1945, approximately two and a half years from this date.

In the meanwhile the Pharmacopœia will continue the practice of issuing "sheet Supplements" whenever these are found necessary to meet emergency needs. These "sheet Supplements" will ultimately be reprinted in the "bound Supplement."

It should be noted that hereafter the title of emergency revisions and additions, heretofore called "Interim Revision Announcements" will now be called "Supplements," and they will be numbered in sequence, as "First U. S. P. XII Supplement," "Second U. S. P. XII Supplement," etc. The "First U. S. P. XII Supplement" will be pasted inside the cover of the Pharmacopœia when it is sold and will authorize the continuance of certain modifications in U. S. P. standards during the war period, such as the omission of Oil of Lavender from Aromatic Spirit of Ammonia and a temporary rescinding of the packaging requirements for Ergot, etc. This "First Supplement" will also carry several corrections in monographs.

A "Second U. S. P. XII Supplement" is also in course of preparation and will be released at the earliest possible date. This Second Supplement will add a number of additional "sulfa" drugs and "sulfa" preparations, also a number of monographs carrying vitamins and their preparations belonging to the Vitamin B group, also an 8 per cent Solution of Hydrogen Peroxide, Quebracho Extract (to supply tannins for burn dressings), and other substances which are

pharmaceutical necessities. These are all supplied at the request of the Army and the Navy to serve as "war medicines." These are equally important, however, in general medical practice and indicate the rapidity of expansion in medical knowledge.

NATIONAL FORMULARY

Dr. Justin L. Powers, Chairman of the Committee on National Formulary, discussed the features of the Seventh Revision which became available a few months ago, and called attention to the fact that before the effective date of the new compendium a Supplement will be issued to

reaffirm the various permissive variations in formulas which were issued for N. F. VI because of shortages or restrictions placed on certain drugs as, for example, quinine and cinchona alkaloids. Work is already under way on N. F. VIII, to be available in 1945, Dr. Powers announced.

HOSPITAL PHARMACISTS ORGANIZE

An important development at the Denver Meeting was the organization of the American Society of Hospital Pharmacists by the Sub-Section on Hospital Pharmacy of this Association. The hospital pharmacists submitted a

CHARLES R. BOHRER APPOINTED ASSISTANT TO THE SECRETARY OF A. PH. A.

Charles R. Bohrer, of West Plains, Mo., has accepted appointment as Assistant to the Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION, effective about October 1, 1942. He will make his office at the Headquarters of the ASSOCIATION in the AMERICAN INSTITUTE OF PHARMACY, Washington, D. C., and will lend his assistance to Dr. E. F. Kelly in carrying the greatly increased burdens which have been placed upon the ASSOCIATION as a result of the war.

Mr. Bohrer is a member of the Board of Pharmacy of the State of Missouri, and this year is President of the National Association of Boards of Pharmacy. He is a graduate of the Kansas City College of Pharmacy and has practiced pharmacy for the past 23 years in the pharmacy founded by his father and, since his death, conducted by Mr. Bohrer and his brother.

He served in the United States Army during World War I, first in the Medical Corps, attaining the rank of Sergeant 1st Class with a Regimental Medical Detachment; later serving on detached service and then transferring to the Air Corps. He was graduated from the School of Military Aeronautics of the University of Texas, the Air Service Flying School at Kelly Field, Texas, and the Flying Instructors' School at Brooks Field, Texas. He served as an officer in the Air Corps, flying status, and instructor at the School for Instructors at Brooks Field.

Mr. Bohrer has been active in the work of the N. A. B. P., serving as chairman of its Legislative Committee, member of its Committee on the Status of Pharmacists in the Government Service, Chairman of its Publicity Committee, and as a member of other committees. He has served as a member of the council, as vice-president and as president of

the Missouri State Pharmaceutical Association. For four and one-half years he was secretary of the Board of Pharmacy of his home state, having been called upon to reorganize the office of the Board during a critical period in its history.

Mr. Bohrer is a member of the Executive Committee of the Missouri State Council of Defense, and is chairman of his own County Council of Defense. He is Past Commander of his Post of the American Legion and a member of various civic and church organizations.



CHARLES R. BOHRER

Constitution and Bylaws which were accepted by the Council, and this new affiliated organization will proceed to enlist the membership and support of others in their specialized field. This new organization should mean much not only to hospital pharmacists, but to practicing pharmacists as well, for it will provide a medium for the interchange of professional information and assistance on a scale never before possible. *THIS JOURNAL* was designated as the official publication of the Society and through its pages hospital pharmacists and practicing pharmacists will help each other.

COLLEGES AND BOARDS MEET

The American Association of Colleges of Pharmacy and the National Association of Boards of Pharmacy held their annual meetings in conjunction with meetings of the A. Ph. A. Both organizations lost their secretaries this year through retirement. C. T. Eidsmoe, of Brookings, S. D., was elected to succeed Miss Zada Cooper as Secretary of the A. A. C. P., and P. H. Costello, of Cooperstown, N. D., was elected Secretary of the N. A. B. P., to succeed Dr. H. C. Christensen.

SECRETARIES MEET

The Conference of Pharmaceutical Association Secretaries held their annual meeting at Denver, discussing problems of the emergency in which their organizations must assume leadership in order to give proper guidance to practicing pharmacists. At its closing session the Con-

ference elected Chauncey Rickard, Secretary of the Pennsylvania Pharmaceutical Association, as president for the ensuing year. The Conference stressed the value of the special War Meeting called by the A. Ph. A. last February and urged that similar meetings be called in the future whenever necessary.

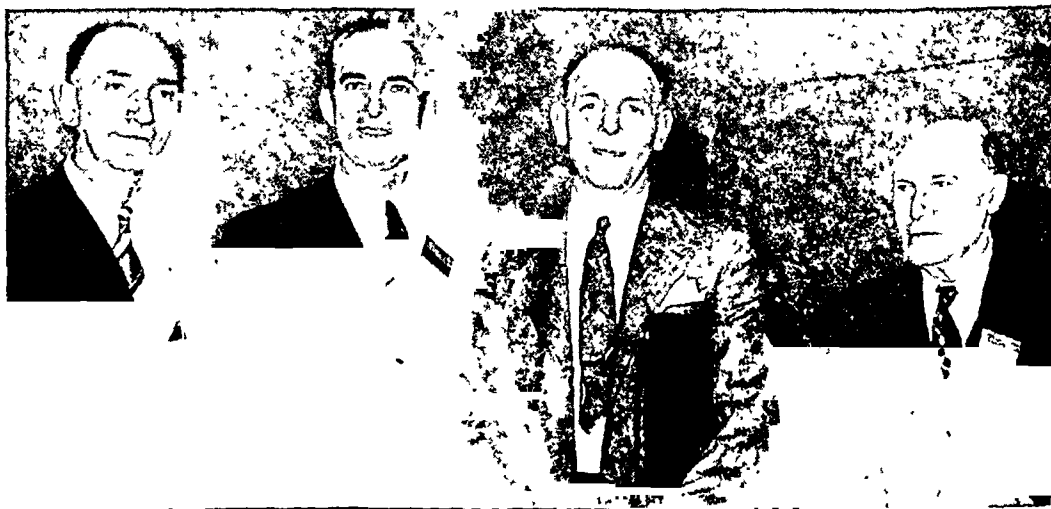
APOTHECARIES MEET

The American College of Apothecaries held a two-day meeting in Denver, offering its members a splendid program of professional papers and discussions. At the closing session Dr. F. D. Lascoff, of New York, assumed the presidency of the organization, and J. K. Attwood, of Jacksonville, Fla., was named president-elect.

ENTERTAINMENT

Although entertainment features at this year's meeting were curbed to conserve time, the Local Committee provided an excellent banquet and two programs of music and entertainment following evening meetings during the week.

New officers of the National Association of Boards of Pharmacy. Left to right: P. H. Costello, Secretary; Paul Molyneux, Retiring President and new member of the Executive Committee; Charles R. Bohrer, President; H. C. Christensen, Retiring Secretary and newly elected Honorary President



RESOLUTIONS

ADOPTED BY THE AMERICAN PHARMACEUTICAL ASSOCIATION AT ITS NINETIETH ANNUAL MEETING, DENVER, COLORADO

AUGUST 16-21, 1942

PRESIDENT'S ADDRESS

1. *Resolved*, that the Association expresses its sincere appreciation for the comprehensive, thought-provoking address of President Christensen.

PHARMACY CORPS BILL

2. *Resolved*, that this Association endorses the Pharmacy Corps Bill, S. 2690, H.R. 7432, and be it further

Resolved, that the Council be authorized to adopt such measures as will in its judgment assist in the speedy enactment of the Pharmacy Corps Bill into law.

PHARMACISTS IN THE NAVY

3. *Resolved*, that the Committee on the Status of Pharmacists in the Government Services be authorized to take such steps as may be advisable to improve further pharmaceutical service in the Navy and to secure for pharmacists in the Navy the commissioned rank which will enable them to make such improvements effective.

PHARMACY IN THE WAR EFFORT

4. *Resolved*, that a Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION representative of the various branches of pharmacy be appointed to define the function of pharmacy in the war effort and to offer the services of pharmacy to the governmental agencies engaged in the prosecution of the war; and be it further

Resolved, that the Committee offers to serve in an advisory capacity to such agencies.

PRESCRIPTIONS UNDER PRICE CEILINGS

5. WHEREAS, the compounding and dispensing of prescriptions is essentially a professional service; and

WHEREAS, in the regulations of the Office of Price Administration professional services are excluded from ceiling prices; therefore be it

Resolved, that the Convention unalterably opposes the proposal which places a ceiling on the profes-

sional services which are included in prescription prices; and be it further

Resolved, that the Association deplores the action of the Office of Price Administration in releasing through the press statements relating to the public's view of prescription prices, which statements are not supported by objective data and represent mere opinion.

LAW ENFORCEMENT

6. *Resolved*, that the Association strongly urges all Boards of Pharmacy and food and drug law enforcement agencies to maintain their inspection activities on the highest level of efficiency and to increase rather than diminish their activities during the war emergency in the interest of the public health.

SURPLUS STOCKS OF SCARCE DRUGS

7. WHEREAS, certain widely used drugs and health supplies have been classified among the scarce and critical materials required by the War Production Board, and

WHEREAS, we must anticipate shortages in the supply of these and possibly other drugs and health supplies, and

WHEREAS, the retail pharmacies of the United States numbering upward of 57,000 individual establishments may have considerable quantities of these drugs and health supplies in their stocks, which may not be immediately required for local consumption, and

WHEREAS, the pharmacists of America have pledged their wholehearted cooperation to the war effort, now therefore be it

Resolved, that the AMERICAN PHARMACEUTICAL ASSOCIATION arrange to disseminate to the retail pharmacists of the United States such information as may be helpful in locating and forwarding to centralized supply stations, designated by the War Production Board or other Governmental agencies, the surplus stocks of such scarce and critical drugs and health supplies in the interest of the war effort.

GEORGE-DEEN STUDY

8. *Resolved*, that the Association approves in principle the George-Deen study of Distributive Phases of Retail Drug Store Operations, and be it further

Resolved, that the Committee be continued and that as rapidly as subject matter is compiled, it be prepared for publication and distributed to state and local supervisors of distributive education, and to state and local pharmaceutical organizations, and be it further

Resolved, that proper steps be taken to emphasize the importance of publication of the teaching outlines for the retail drug field to the proper authorities in the Federal Government, in order that the completion of this program may be expedited and that it may take its proper place in equipping the retail druggist for his part in the war program, and be it further.

Resolved, that the agencies of organized pharmacy of the several states give serious consideration to the advancement of an active program in retail drug training under the provisions of the George-Deen Act, and in accordance with the curricula material prepared by this Committee, and the subject matter specialists, in collaboration with the Regional Agent for Distributive Education, under the direction of the Chief of Business Education Service, U. S. Office of Education.

CENTENNIAL COMMITTEE

9. *Resolved*, that a committee to be known as the Centennial Committee be appointed by the incoming President to make plans for a proper observance of the centennial of the AMERICAN PHARMACEUTICAL ASSOCIATION in 1952.

AFFILIATED ORGANIZATIONS

10. *Resolved*, that a committee be appointed by the incoming President to make a careful study of the whole problem of affiliations and relationships between the affiliated organizations and the parent Association; and further, that the Committee be instructed to report to the Association the results of its study, as well as to recommend the necessary action to strengthen these relationships.

B. V. CHRISTENSEN AND H. H. GREGG

11. *Resolved*, that the Association commends President Christensen and Chairman Gregg of the House of Delegates for the able manner in which they have conducted the deliberations of the convention.

PRODUCTIVE DETAILING

12. WHEREAS, the Productive Detailing project currently sponsored by the Committee on Professional Relations of the AMERICAN PHARMACEUTICAL

ASSOCIATION under the chairmanship of Charles Hall Evans, and appearing in the Practical Pharmacy Edition, represents a new approach to the subject of detailing physicians which promises to be most effective in assisting pharmacists to extend and expand their professional services to physicians, be it

Resolved, that the AMERICAN PHARMACEUTICAL ASSOCIATION commends Mr. Evans and his Committee on this project, urges its continuation and further development, and recommends that pharmacists make the fullest use of the excellent material which this project makes available.

JOINT DUES COLLECTION

13. *Resolved*, that the Association consider the advisability of adopting some plan whereby the AMERICAN PHARMACEUTICAL ASSOCIATION dues may be collected together with the dues of State and Affiliated Associations and organizations.

ENLISTMENT OF MEMBERS

14. *Resolved*, that the AMERICAN PHARMACEUTICAL ASSOCIATION adopts the policy of enlisting as members all persons qualified according to the Constitution; and be it further

Resolved, that the Council be directed to perfect and execute a program of action designed to carry out this policy.

WAR AND POSTWAR PROBLEMS

15. *Resolved*, that the Association instructs the Committee on Long Range Program to begin immediately to inaugurate an integrated program in the matter of war and postwar problems.

JOINT SECTION MEETING

16. WHEREAS, the subsection on Hospital Pharmacy, the American College of Apothecaries and the Section on Practical Pharmacy have much in common, both as to contents of papers and attendance, be it

Resolved, that a joint meeting of the three be arranged by the secretaries for the next A. Ph. A. meeting.

SECRETARIES' CONFERENCES

17. *Resolved*, that the Association endorses the principle of the Secretaries' Conference; and be it further.

Resolved, that the Council be instructed to call one or more such conferences annually if conditions warrant it.

A. PH. A. -A. M. A. CONFERENCES

18. *Resolved*, that the Association take the necessary measures to assure the continuation of the

policy of joint conferences between the AMERICAN PHARMACEUTICAL ASSOCIATION and the American Medical Association established by the Cleveland Conference on April 6, 1942.

H. C. CHRISTENSEN

19. WHEREAS, Dr. H C Christensen for twenty-eight years Executive Secretary of the N. A B P has retired from active service, and

WHEREAS, Dr Christensen has labored diligently for more than a generation in the diverse activities of this Association, therefore be it

Resolved that the Association expresses its sincere appreciation of his many significant contributions

MISS ZADA COOPER

20 WHEREAS, Miss Zada Cooper, for many years Secretary-Treasurer of the A. A C P, has retired from active service be it

Resolved, that the Association expresses its appreciation of her lifetime of service to pharmacy and pharmaceutical education in the office which she is now relinquishing.

EUGENE G. EBERLE

21. WHEREAS, death has removed from our midst Eugene G Eberle, for many years the Editor of the JOURNAL of the A. PH. A., a former president of the Association and throughout his life ever a loyal, devoted member of the organization, be it

Resolved, that the AMERICAN PHARMACEUTICAL ASSOCIATION records its deep sense of loss and acknowledges its great debt to this man who contributed so much to the profession of pharmacy

LOCAL COMMITTEE

22. *Resolved*, that the Association expresses its sincere appreciation to Mr P G Stodghill, General

Chairman and Local Secretary, for the excellent manner in which he provided for the comfort and entertainment of the delegates; and be it further

Resolved, that the Association thanks all the members of committees who co-operated in making the Convention such an enjoyable one.



Above: H S. Wilson, of Atchison, Kans., who presented the Federal Wholesale Druggists Association Trophy for the best Pharmacy Week Window Display in 1941 to Frank Nau, of Portland, Ore. Mr. Nau was unable to attend the meeting and the trophy was received in his name by E. Stipe.

Below: Officers of the Sub-Section on Hospital Pharmacy who directed the formation of the American Society of Hospital Pharmacists



JOSIAH K. LILLY NAMED REMINGTON MEDALLIST FOR 1942

CHAIRMAN OF BOARD OF ELI
LILLY AND COMPANY HONORED
FOR HIS INTEREST AND SUPPORT
OF PHARMACEUTICAL RESEARCH

JOSIAH K. Lilly, Chairman of the Board of Eli Lilly and Company, Indianapolis, has been awarded the Remington Honor Medal for 1942 in recognition of his interest and support of pharmaceutical research not only in the laboratories of his own company but in the Laboratories of the AMERICAN INSTITUTE OF PHARMACY, and in educational institutions throughout the country. The medal is awarded annually by the New York Branch of the AMERICAN PHARMACEUTICAL ASSOCIATION to the individual who, in the opinion of a committee consisting of the past-presidents of this ASSOCIATION, has contributed most during the year to the advancement of the profession of pharmacy or whose contributions over a period of years are worthy of recognition. Announcement of the award was made by Dr. Hugo H. Schaefer, of New York, chairman of the Remington Medal Committee, at the recent Denver meeting of this ASSOCIATION.

The medal will be presented at a suitable time this fall.

Josiah K. Lilly was fourteen years of age when his father, Colonel Eli Lilly, began producing medicinal products. With the enthusiasm of youth he was eager to have a part in the growth of the enterprise. Colonel Lilly found his son a good helper, ready and willing to accept any assignment. He delivered merchandise in a splint basket to local dealers. He swept floors, washed windows, kept steam up in the tiny power

plant and found time to prepare drugs for percolation, to roll pills, and attend to filters.

GRADUATED IN PHARMACY

Sensing the need for higher education in his calling, Colonel Lilly parted with his son's services long enough for him to attend the Philadelphia College of Pharmacy, from which he was graduated in 1882. He returned to the growing business with a firm determination to apply the knowledge he had gained to the furtherance of his father's laboratory. He became assistant superintendent, then superintendent, and on the death of Colonel Lilly in 1898 he took over the mass of constantly growing responsibilities. Under his leadership the business grew rapidly. He was able to demonstrate that a business of any magnitude can be built upon the strictest of ethical principles. Yet, he made these principles practical instead of merely idealistic.

A sense of stewardship is a Lilly characteristic. It was true of the father. It is true of the son. The fine spirit that exists in this large organization at the present time reflects the personality and character of Colonel Lilly, the founder, and his son J. K. Lilly.

Few among the uninitiated are aware of the ramifications of a business so diversified in its activities as is Eli Lilly and Company. Mr. J. K. Lilly many years ago was quick to sense the trend in pharmacy and medicine and one of his early interests in his father's laboratories embraced research. Begun in a moderate way with the standardization of such products as fluidextracts the growth of this branch of the enterprise requires little explanation to those who are in position to know of the part the Lilly Research Laboratories have played in making available to the medical profession a growing list of therapeutic agents.

The Company coöperated in the development of the first insulin commercially available in the United States and has pioneered in the production of vitamin preparations, ephedrine products, liver extracts, and improved barbituric acid derivatives. Through its work the products of research laboratories in various parts of the

COMMITTEE APPOINTMENTS

The new officers of the ASSOCIATION and the personnel of the committees thus far appointed appear in the Roster on page 327 of this issue.

OCTOBER						1942
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				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	PHARMACY WEEK					24
25	26	27	28	29	30	31

PLANS COMPLETED FOR

NATIONAL PHARMACY WEEK

OCTOBER 18-24 CHOSEN FOR THIS YEAR'S OBSERVANCE, CHARLES R. BOHRER IS NEW CHAIRMAN; PRIZES OFFERED FOR PROFESSIONAL DISPLAYS

THE profession of pharmacy will pool its services and facilities during National Pharmacy Week, October 18-24, to impress the American people with their obligation to keep well and on the job during the present emergency. It will also emphasize the services which pharmacy is rendering in this program. Window displays, talks before service clubs and radio addresses will stress the fact that the shortage of physicians and pharmacists and the need for conserving drugs and medical supplies make it imperative that every individual guard his health as never before.

Roy Bird Cook, president of the AMERICAN PHARMACEUTICAL ASSOCIATION, has appointed Charles R. Bohrer, member of the Missouri Board of Pharmacy and president of the National Association of Boards of Pharmacy, as chairman of the National Pharmacy Week Committee, and the committee has released the following details for the 1942 observance:

Once again the Robert J. Ruth trophy, contributed by the Federal Wholesale Druggists'

Association, will be awarded to the pharmacist whose Pharmacy Week Window display is judged the best in the country.

The AMERICAN PHARMACEUTICAL ASSOCIATION and the National Association of Retail Druggists will award certificates for the ten best national window displays after the first. State and Local Pharmaceutical Associations will again award prizes for the best displays in their respective states and sections.

The AMERICAN PHARMACEUTICAL ASSOCIATION will offer a prize for the best display by a pharmaceutical association and a prize for the best display by a school or college of pharmacy. Many other prizes will also be offered to stimulate interest in the contest.

Pharmacy has a real message for the public this year. The task of maintaining the health of a community this fall and winter is one which demands the coöperation of every citizen. Areas which formerly had four or five physicians now have but two or three and they are going to have a heavy burden taking care of seriously ill patients. If every individual in the community will do all he can to prevent sickness it will lessen the strain on the medical services of the community. The two enemies of good health are carelessness and neglect and pharmacists should use their in-

RULES FOR THE WINDOW DISPLAY CONTEST

1. Photographs of professional window displays must be submitted to the Secretary of the respective State Pharmaceutical Association on or before November 15, 1942, in order that the winner may be judged and entered in the National Contest.
2. Professional Pharmacy Week Windows must not contain any commercial advertising.
3. Pharmacy Week Windows which have been entered in former years will be ineligible.
4. Pharmacy Week Windows should convey some message which will inform the public of the professional character of pharmacy.
5. Pharmacy Week Windows may or may not carry out any particular theme and all windows will be judged upon the professional character, arrangement of window and the value of the message carried to the public.
6. Photographs submitted of windows should be 8 in. by 10 in. in size or some other suitable size so that judges will be enabled to study details of the display.
7. Each State Association shall appoint a committee at some date prior to November 15, and this committee will meet and select the best window within the state. A photograph of that window shall be mailed to Mr. Charles R. Bohrer, National Pharmacy Week Committee, 2215 Constitution Avenue, Washington, D. C., not later than December 15, 1942.
8. As soon as possible after December 15, a national committee will be chosen to select the best eleven window displays from the states as a whole. The pharmacist whose window is judged the best will be awarded the Robert J. Ruth trophy supplied by the Federal Wholesale Druggists' Association and the others will receive certificates of merit.
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fluence in their respective neighborhoods to combat these two.

The problems of pharmacy in the war are well described in a special article prepared by the Pharmacy Week Committee for the use of pharmacists in designing their displays, planning newspaper promotion, radio talks or speaking before service clubs. See list of articles attached.

FEATURE THE U. S. P. AND N. F.

In telling the story of pharmacy service's to the public, feature the new editions of the U. S. Pharmacopœia and National Formulary. The recent appearance of these new editions provides an unusual opportunity to impress the public with the importance of drug standardization which assures them of the purity, quality and strength of the medicines they use.

The pharmacist should select a particular theme for his display and develop a catchy phrase to serve as a title. The next step is to organize the material he needs to tell a dramatic story.

He should use every bit of apparatus and material he has that will add to the impressiveness of the display but shouldn't clutter up the window with unnecessary material that does not contribute to the theme he is using. A simple display is often the most effective for it is difficult to secure a dramatic effect if a confusing array of mortars and pestles, graduates, bottles, etc., is used.

One word of warning: Do not use any display material or signs which contain the advertising of a manufacturer for, if you do, your display will be disqualified under the rules.

If the pharmacist is an expert photographer and has a good camera, he can take his own picture of the window and make an 8 by 10-in. enlargement to submit in the contest. Unless he can do justice to the display, however, have a professional photographer take the picture. The few dollars it costs will be well spent, for the judges have to evaluate the displays on the basis of the photograph alone. They won't see the bright coloring of the crepe paper and the attractive

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RADIO ADDRESSES

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State and local groups should arrange radio addresses and also to be represented by speakers at civic, religious, educational and other meetings.

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PECTIN EMULSIONS AND OINTMENTS

by KARL J. GOLDNER

ASSOCIATE PROFESSOR OF PHARMACY, SCHOOL OF PHARMACY, UNIVERSITY OF TENNESSEE

NEW STUDY PROVIDES ADDED INFORMATION ON THE USE OF THIS FRUIT SUBSTANCE OFFICIAL IN NATIONAL FORMULARY VII

In a previous paper¹ it was shown how a small amount of pectin could be used to replace one-half of the acacia in emulsions of mineral oil and cod-liver oil. Since that time it has been found possible to make permanent emulsions of mineral oil with pectin alone, and emulsions of cod-liver oil that were stable for at least three weeks.

From laboratory experience, certain generalizations regarding the use of pectin can be made. In some respects pectin behaves in the same manner as acacia, but in many respects it does not. Like acacia, it may be used in both the Continental and English methods of producing emulsions. In general, the Continental method is more satisfactory. When used in the English method, the pectin should first be protected from clumping by the use of sugar, glycerin or alcohol before the addition of water. In the Continental method, the oil serves this purpose.

The primary emulsion should contain not more than 50 per cent of oil, preferably less. The primary emulsions may be diluted with water and, to a considerable extent, with oil. One gram of pectin will replace approximately 12.5 Gm. of acacia and will make, therefore, 100 cc. of finished emulsion. The ratio of pectin to water in the primary emulsion is best at 1:25.

Homogenization reduces the size of the oil particles but will not produce a permanent emulsion where such could not be produced with mortar and pestle alone. In other words, if the proportion of ingredients and the procedure are correct, an emulsion can be prepared with mortar and pestle. Homogenization of this emulsion will result in finer particles, and there will be less tendency for creaming to occur. If the proportion of ingredients or the procedure is not cor-

rect, an emulsion cannot be produced with mortar and pestle, nor will homogenization of such a mixture result in the formation of a permanent emulsion.

One very important observation was made that unless adequate time was allowed for hydration of pectin to take place, stable emulsions could not be prepared. For this reason, a standing period of at least ten minutes is specified in the directions.

These observations are generally applicable. However it must be remembered that each oil to be emulsified presents a separate problem that can be solved only by experimentation. With acacia as the emulsifying agent, oil of apricot kernels and cod-liver oil are easily emulsified, while mineral oil is somewhat more difficultly emulsified. With pectin, oil of apricot kernels is easily emulsified, mineral oil somewhat more difficultly, and cod-liver oil much more difficultly. We are speaking now, of course, of preparing emulsions to contain 50 per cent oil, such as the official products.

MINERAL OIL EMULSION

An emulsion of mineral oil was prepared according to the following formula and directions

Liquid petrolatum	50 cc.
Pectin*	1 Gm
Syrup	10 cc.
Vanillin	0.004 Gm
Alcohol	6 cc.
Distilled water.	34 cc
To make about	100 cc

Rub out the pectin with 25 cc. of mineral oil, add 25 cc. of distilled water all at once and triturate until emulsification begins. Allow to stand at least ten minutes and then triturate until a thick, creamy emulsion is formed. Add slowly, with stirring, the remainder of the mineral oil, the syrup, the remainder of the distilled water and the alcohol, in which the vanillin has been dissolved.

* Throughout this paper, the term "pectin" refers to Pectin, N. F. VII. There are many commercial pectins available on the market which will not function in the formula given here.

COD-LIVER OIL EMULSION

In the case of cod-liver oil, a better procedure was to dilute the primary emulsion with water and syrup before the addition of the second portion of oil. The formula and directions follow.

Cod-liver oil.	50 cc.
Pectin	1 Gm
Syrup	10 cc
Methyl salicylate	0.4 cc
Distilled water	40 cc
To make about	100 cc.

Rub out the pectin with 25 cc. of cod-liver oil, add 25 cc. of distilled water all at once and triturate until emulsification begins. Allow to stand at least ten minutes and then triturate until a thick, creamy emulsion is formed. Add slowly, with stirring, the methyl salicylate, the syrup, the remainder of the distilled water and, lastly, the remainder of the cod-liver oil.

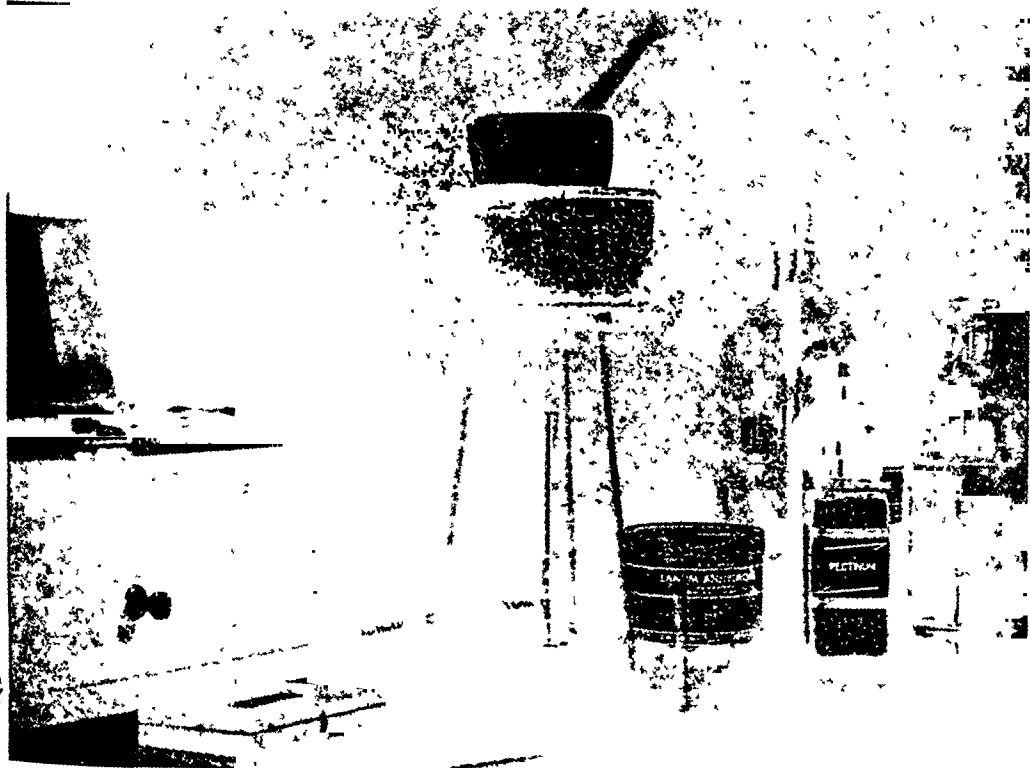
This emulsion showed no signs of creaming or cracking for three weeks. After this time, a small amount of oil came to the top. Upon shaking, the homogeneity of the preparation was restored. Samples prepared with mortar and pestle

or with a mechanical mixer, whether homogenized or not, all behaved in the same manner. There were no evidences of fermentation.

Where a mechanical mixer is used, it is important that the agitator be an efficient one to keep the pectin completely dispersed throughout the oil before and during the addition of water; otherwise, a few particles of undissolved pectin may remain in the emulsion. These particles would then tend to clog a homogenizer and make it very difficult to run the emulsion through

OINTMENTS

Because of the well-known healing properties of pectin pastes,^{2, 3} Dr. Arthur E. Goldfarb of the College of Medicine, New York University, suggested the incorporation of various medicaments used in dermatological practice into pectin paste. However, pectin paste, unless carefully protected from access to air, will dry out in a couple of hours to form a film closely resembling a collodion film. Therefore, wool fat and white petrolatum were added to overcome this undesirable property. Upon experimentation, the following typical formula was evolved.



Boric acid.....	5 Gm.
Glycerin.....	8 Gm.
Pectin.....	3 Gm.
Wool fat.....	7 Gm.
White petrolatum.....	25 Gm.
Ringer's solution.....	52 Gm.
To make about	<u>100 Gm.</u>

Triturate the boric acid and pectin with the wool fat and white petrolatum in a warm mortar. Mix the glycerin and Ringer's solution, heat to boiling, and add all at once to the fatty mixture. Stir the mixture until cool.

The following substances, in 5 per cent concentration, were incorporated to produce satisfactory ointments: boric acid, coal tar, juniper tar, precipitated sulfur, and ammoniated mercury. Ichthammol was used in 10 per cent concentration. In the case of juniper tar and ichthammol, it was necessary to increase the pectin content to 4 per cent to produce a preparation which was not too fluid. Sulfanilamide and sulfathiazole preparations must be protected from mold by the addition of 0.2 per cent of benzoic acid.

Because of the trace of iron contained in pectin, it is incompatible with tannic acid and salicylic acid, preparations containing tannic acid becoming black, and preparations of salicylic acid purple. The addition of sodium citrate did not prevent the blackening.

Zinc oxide produces a very granular preparation. Alkalies may not be used with pectin, as pectin pastes lose their consistency above pH 4.5.

Work is being done on the use of the newly developed sodium pectate for preparations where the pH is higher.

The time of the addition of the medicinal substance will depend upon its characteristics. Substances which are volatilized or injured by heat should be incorporated into the finished, cool ointment base. Substances which are quickly and completely soluble in hot water but which crystallize upon cooling of the ointment should likewise be incorporated, in the form of a fine powder, into the cool base. Most substances can be mixed with the pectin and are then easily dispersed.

SUMMARY

1. Some peculiarities with regard to the use of pectin as an emulsifying agent have been pointed out.

2. Formulas and directions for the preparation of emulsions of mineral oil and cod-liver oil, in which pectin alone is used as the emulsifying agent, have been given.

3. Formulas and directions for the preparation of dermatological ointments with a pectin base, have been given.

4. Some incompatibilities of pectin, particularly tannic acid, salicylic acid and alkalies, have been pointed out.

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- ² Fantus, B., and Dyniewicz, H. A., *JOUR. A. PH. A.*, 28 (1939), 548.
- ³ Weston, M. L., *Am. J. Nursing*, 40 (1940), 388.

TAKE PART IN

NATIONAL PHARMACY WEEK

OCTOBER 18-24, 1942

SEE PAGE 321 OF
THIS ISSUE FOR DETAILS

AMERICAN PHARMACEUTICAL ASSOCIATION

OFFICIAL ROSTER FOR 1942-1943

(Committees will be corrected as appointments are made by the President, Chairman of the Council, Chairman of the House of Delegates and Chairman of the Sections)

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President, Roy Bird Cook, Charleston, W Va
Honorary President, James E Hancock, Baltimore, Md
First Vice-President, Donald A Clarke New York, N Y
Second Vice-President, C O Lee, Lafayette, Ind
Secretary, E F Kelly, 2215 Constitution Ave., Washington, D C
Treasurer, Hugo H Schaefer, 600 Lafayette Ave., Brooklyn N Y
Editors of the Journal Scientific Edition, J L Powers, 2215 Constitution Ave., Washington, D C, *Practical Pharmacy Edition,* R W Rodman, 2215 Constitution Ave., Washington, D C
Assistant to the Secretary, Charles R Bohrer, 2215 Constitution Ave., Washington, D C

THE COUNCIL

Elected Members.—G D Beal, Mellon Institute of Industrial Research, Pittsburgh, Pa (1945), Charles H Evans, Warrenton, Ga (1945), R P Fischels, 28 W State St, Trenton, N J (1945), Glenn L Jenkins, Purdue University, Lafayette, Ind (1943), H A B Dunning, Charles & Chase Sts, Baltimore, Md (1943), F J Cermak, 3501 F 93rd St, Cleveland, Ohio (1943), F E Bibbins Eli Lilly & Co, Indianapolis Ind (1944), P H Costello, Cooperstown N D (1944) R L Swain, 330 W 42nd St, New York, N Y (1944)
Ex-Officio Members.—B V Christensen Roy Bird Cook, D A Clarke, C O Lee J K Attwood E F Kelly, Hugo H Schaefer

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Secretary, E F Kelly

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Committee on Property and Funds.—**Chairman,** Roy Bird Cook, H H Schaefer, R P Fischels, R L Swain, E F Kelly
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Committee on Standard Program.—**Chairman,** Roy Bird Cook, J K Attwood, C O Lee P H Costello, E F Kelly
Committee to Develop Advertising for the R. B. and N. F.—**Chairman,** J L Lascoff, H A B Dunning, J L Powers, R W Rodman
Representatives on The American Council on Pharmaceutical Education.—R P Fischels (1946), E F Kelly (1944), L D Bracken (1948) These members serve with an equal number from the A A C P and the N A B P
Committee on A. Ph. A. Laboratory.—**Chairman** G D Beal (1943), I O Taylor (1944), C P Frailey (1947), J L Powers (1945), G L Jenkins (1946) *Ex officio,* E F Cook, J L Lascoff
Committee on Tenure of Office and Retirement Provisions.—**Chairman,** H H Schaefer, R L Swain, H A B Dunning.
Committee on Office Personnel.—**Chairman,** R L Swain, H H Schaefer, H A B Dunning

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*Practical
Pharmacy
Edition*

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A TWICE-TAUGHT LESSON

IF THERE was any one lesson which pharmacists learned from the depression of the early 30's it was that economic stability in time of stress rests in their prescription practices and the extent of the professional services they render. Those pharmacists who depend for the greater part of their livelihood on the merchandising of miscellaneous side lines and luxury articles suffered tremendously when the general public felt the economic pinch and were forced to curtail their nonessential spending. On the other hand, those pharmacists who were engaged primarily in the practice of pharmacy and rendering a necessary health service weathered the depression in far better shape.

The present emergency is again teaching pharmacists this lesson, and teaching it most effectively.

Manufacturing plants which formerly produced nonessential merchandise are now turning out war materials, and shortages of raw materials are fast closing those factories which could not be converted to war production. As a result, pharmacists are not able to obtain the number and variety of lines of general merchandise which they used to stock. Most of the side-line articles they have received during the past few months have come out of wholesalers' or manufacturers' floor stocks and when this supply is exhausted there will be no more for the duration.

All this is of little concern to the pharmacist who is engaged primarily in the practice of pharmacy, but what are the others to do to make up for the income they formerly received from the departments "out front"? There seems to be but one answer and that

is to expand the only department of their pharmacies that can be expanded—the prescription department. The average pharmacy today falls far short of rendering what might be considered a complete pharmaceutical service to physicians and the public, so there is plenty of room to expand in this direction.

The present war requires the services of approximately $6\frac{1}{2}$ physicians per thousand soldiers, and the armed forces have placed a heavy drain on the medical manpower of the country. Practically every community has lost one or more physicians to the Services and may expect to lose more during the coming year. Those doctors who remain at home in civilian practice are having a great load to carry and they need every bit of assistance that pharmacists can render. For example, the neighborhood physician no longer has time to read his medical journals thoroughly as he used to do. He must, of necessity, depend upon the pharmacist to keep him advised of new pharmaceutical products and pharmacists will need to be familiar with the composition, properties, uses, and dosage of these prescription items. Because he has had to curtail his reading, the physician will welcome having the pharmacist call to his attention new treatments which are described in medical publications. He will be receptive to such suggestions as the pharmacist can make to simplify his prescribing and save him time. He will appreciate it if the pharmacist will relieve him of explaining to patients how to use such articles as an ear douche, a clinical thermometer, and a croup kettle; how to sterilize baby bottles and prepare infants'

formulas; how to keep other members of a family from catching Father's cold; and how to practice the common-sense rules of good health to diminish the possibilities of illness.

Many dentists, too, have joined the armed forces and those who remain in civilian practice are putting in long hours to supply necessary dental care to the public. These men will be more receptive than ever to the help which pharmacists can render.

Inasmuch as it is to his prescription practice and professional services that the pharmacist will have to look for the major portion of his livelihood during 1943, it is obvious that the type of assistance he needs most is the practical professional information and help which **THIS JOURNAL** provides. The Practical Pharmacy Edition was conceived by the **AMERICAN PHARMACEUTICAL ASSOCIATION** three years ago to meet the need of pharmacists for a practical professional journal and apparently the need will be even more general and more pressing during coming months than it has been in the past.

Realizing the problem and appreciating the fact that pharmacists are seeking ways and means of augmenting the professional services they are now rendering, the **ASSOCIATION** will direct **THIS JOURNAL** along lines which will provide exactly the help required. The Productive Detailing project will be expanded and the Druggists' Digest section will be enlarged to include summaries of every important report on the modern use of drugs which appears in the medical journals of the country. More and more articles on new ointment bases, vehicles, and other pharmaceutical preparations will be scheduled in order that pharmacists may make available the best that this profession has to offer. New professional services will be established and special review articles will be written by leading authorities in the fields of vitamins, hormones, and chemotherapeutics to bring pharmacists up to date with these subjects and provide the background information they need to discuss new products with physicians. In short, **THIS**

JOURNAL will do all it can to help pharmacists expand the scope and character of their practice of pharmacy.

But pharmacists should not view the necessity or desirability of becoming more professional as a temporary expedient. The depression taught a lesson which is being taught again by the war emergency. There are trying days ahead, even after the war is over, and the test of how pharmacy and pharmacists survive will unquestionably be how necessary they are found to be to the maintenance of the health and welfare of the community and the nation.

The force of circumstance brings pharmacists and physicians closer together today than they have been in years. This is a time for men with vision to carve for themselves and for their profession a more important place among the health services.



ARMY PRESENTS ITS OBJECTIONS AT PHARMACY CORPS BILL HEARING

BRIG. GEN. MCAFEE STATES PHARMACY IS A TECHNICAL SERVICE THAT DOES NOT MERIT COMMISSION, TENOR OF DISCUSSION INDICATES THAT HOUSE COMMITTEE ON MILITARY AFFAIRS FEELS PHARMACY DESERVES GREATER RECOGNITION IN THE ARMY

THE practice of pharmacy in the Army amounts to a mere technical service which does not demand or merit a commission to those who render it, Brig. Gen. Larry B. McAfee, Assistant to the Surgeon General of the U. S. Army, testified at the first hearing on H.R. 7432, the Reynolds-Durham Pharmacy Corps Bill, before the House Committee on Military Affairs, on November 17. After hearing the Army's opposition to the Bill, the House Committee adjourned to hold further hearings within the near future, at which time representatives of pharmacy and other proponents of the legislation will be heard.

Gen. McAfee, representing the Office of the Surgeon General, presented the following objections to the creation of a Pharmacy Corps in the Regular Army as provided in the Bill.

(1) It is undesirable to enact permanent peacetime legislation concerning the make-up of the Army during wartime. The Bill is a peacetime measure which provides for the increase in pharmaceutical personnel in the Regular Army from the 16 now provided for in the Medical Administrative Corps to 72. The Army is now engaged in a war and it does not know how large a peacetime army will be maintained after the war and hence does not know what its peacetime needs for pharmaceutical personnel will be.

(2) A technical service, such as pharmacy, does not warrant a commission. The Army cannot afford to use pharmacists full-time as officers in a dispensary and is willing

to commission them only if they are trained in Officers Candidate Schools to do more than merely practice pharmacy, *i. e.*, to perform administrative functions and to assume command of enlisted men in station hospitals or general hospitals.

(3) The pharmaceutical needs of field establishments are comparatively simple as there is little actual compounding done. Such drugs as are used are in tablet form and any intelligent boy can read the label. Dangerous drugs are kept locked and only an officer has the key.

(4) The needs of the Army for pharmaceutical service are now being provided satisfactorily by:

- (a) The commissioned pharmacists in the Medical Administrative Corps.
- (b) The trained pharmacists from civil life who are entering the Army through the operation of the Selective Service System and who serve in noncommissioned grades depending upon the vacancies existing in the unit to which the selectee is assigned. The Medical Department believes it will have assignments in pharmaceutical work for every pharmacist who is inducted through Selective Service. Every effort is made to have pharmacists assigned to the Medical Department from Reception Centers and as assignments are followed up by the Office of the Surgeon General and pharmacists are found serving in other branches of the Army, they are reclassified and sent to the Medical Department. Right now a canvass of the entire Army is being made to find pharmacists who may be serving in the line in order to obtain pharmacists needed by the Air Corps.
- (c) The pharmacy technicians being trained in Army schools. In general, the pharmacy technician does not take over the responsible duties in the dispensing of drugs such as pharmacists perform. These men serve as assistants to phar-

macists and handle ordinary drugs that are put up in a form already to administer, but if the Army fails to obtain enough pharmacists through the operations of Selective Service, graduates of the Army's technical schools will be utilized to make up the difference.

(5) The Army is getting all the pharmacists it needs through the Selective Service. Therefore, it does not feel that it has to offer commissions to get pharmacists as it does to get the number of physicians which it needs, since it requires more physicians than it would get through the normal operation of the Selective Service System.

(6) The Army does not believe it is a waste of man power to have pharmacists serving in the ranks in non-pharmaceutical duties, if it has more than enough pharmacists to satisfy its needs for pharmaceutical services.

Gen. McAfee stated that 234 pharmacists have thus far qualified for commissions through Officers Candidate Schools. Although it is not known how many pharmacists are in the service at the present time, the Army estimated that about 5000 would be taken in through Selective Service this year.

In reply to questioning as to the effect of passage of the Bill on the placing of pharmacists, Gen. McAfee stated that the Army would have to add more officers to each of its units to provide for pharmacists and would then lift to the grade of second lieutenant those pharmacists who are now serving in noncommissioned ranks.

QUESTIONED BY COMMITTEE

Although the opportunity of proponents of the Bill to present their case will come at later hearings, members of the House Committee questioned Gen. McAfee on many of the points he had made and the general tenor of the discussion indicated that some members of the Committee were rather favorably impressed by the objectives of the legislation. In reply to questioning by Congressman Durham, Gen. McAfee admitted that, although one of the Army's objections to the Bill was the undesirability of enacting permanent legislation in wartime, proposals for the creation of a Pharmacy Corps have been in the Surgeon

General's Office since 1918. Several members of the Committee cited the injustice of commissioning physicians when they are assigned to the Medical Department and commissioning lawyers when they are assigned to the Judge Advocate General's Corps, and yet not commissioning pharmacists when they are assigned to the Medical Department to practice their profession. It was implied in various remarks that the Army could commission pharmacists by administrative means now if it wished to do so.

Congressman Ivor D. Fenton, of Pennsylvania, was outspoken in his disagreement with the policy of the Army in regard to pharmacists. Stating that he himself was a physician, Congressman Fenton said that he knew how doctors in civil life depend upon pharmacists for their knowledge of drugs and he expressed the belief that, just as pharmacy has a real place in civilian life, it has a real place in military life also. He further stated that he was a medical officer in World War I and, although he was in charge of a dis



BRIG. GEN. LARRY B. MCAFEE

pensary, he depended entirely upon two sergeants who were pharmacists to take care of the pharmaceutical duties, leaving him free to devote his entire time to his medical work.

Congressman Fenton refuted Gen. McAfee's characterization of pharmacy as a technical service similar to that rendered by the laboratory technician or X-ray technician. He stated that with all due respect to the technical phases of medical service, the pharmacist has a greater responsibility. He pointed out that, if the pharmacist were to make a mistake in the issuance of a drug, it might mean the lives of many men, while the laboratory technician or

X-ray technician does not necessarily have such a responsibility in the lives of soldiers. "I do not think these other technicians are at all comparable to the pharmacist," he said.

The Committee on Pharmacy Corps in the Regular Army, under the chairmanship of Dean H. Evert Kendig, of Temple University College of Pharmacy, Philadelphia, and representing the AMERICAN PHARMACEUTICAL ASSOCIATION, the National Association of Retail Druggists, the National Association of Boards of Pharmacy and the American Association of Colleges of Pharmacy, will direct the presentation of pharmacy's case before the House Committee.

WPB ISSUES

RUBBING ALCOHOL RESTRICTIONS

PREPARATIONS THAT CONTAIN ETHYL ALCOHOL MAY NOT BE SOLD TO PUBLIC EXCEPT ON PRESCRIPTIONS, BUT ISOPROPYL ALCOHOL RUBBING COMPOUNDS ARE NOT AFFECTED BY THE ORDER

EFFECTIVE November 11, 1942 the War Production Board has prohibited the delivery of ethyl alcohol or any compound or preparation containing ethyl alcohol for use as rubbing alcohol or for the manufacture of any rubbing alcohol compound or preparation except deliveries made to the following:

- (1) The holders of written prescriptions or orders of licensed physicians, dentists, and veterinarians;
- (2) Licensed physicians, dentists, and veterinarians;
- (3) Wholesale or retail druggists for resale in accordance with the Order;
- (4) Manufacturers, packagers, and bottlers of rubbing alcohol compounds or preparations for resale in accordance with the Order;
- (5) The Army or Navy of the United States,

the United States Maritime Commission, the War Shipping Administration, the Panama Canal, the Coast and Geodetic Survey, the Coast Guard, the Civil Aeronautics Authority, the National Advisory Committee for Aeronautics, and the Office of Scientific Research and Development; the Governments of other allied nations; and persons holding permits by the Bureau of Internal Revenue permitting them to acquire undenatured ethyl alcohol tax free. Since hospitals are included among those who acquire ethyl alcohol tax free, such institutions may continue to use ethyl alcohol in rubbing alcohol compounds.

The new restrictions, issued as an amendment to General Preference Order M-30, thus prohibit the sale by pharmacists of rubbing alcohol compounds containing ethyl alcohol except on prescriptions or to physicians and others listed above. Such prescriptions do not need to be on any special forms, the physician's ordinary prescription blanks being sufficient, and rubbing alcohol prescriptions may be refilled.

The sale of isopropyl alcohol rubbing compounds is not affected by the order. As reported in **THIS JOURNAL** for October, 1942, isopropyl alcohol is satisfactory for rubbing compounds and has been used for such in many hospitals for several years.

ALCOHOL DRAWBACK REGULATIONS

PHARMACISTS CAN CLAIM THE DRAWBACK ONLY ON THE AMOUNT OF ALCOHOL USED IN PRODUCTS ACTUALLY SOLD IN EACH THREE MONTHS' PERIOD. COMPLETE RECORDS OF PURCHASE AND USE MUST BE KEPT UP TO DATE AND RETAINED FOR AT LEAST THREE YEARS. SIMPLIFIED RECORD FORMS OFFERED BY THE AMERICAN PHARMACEUTICAL ASSOCIATION

THE tax drawback of \$3.75 per proof gallon of distilled spirits, provided in the Revenue Act of 1942, will be allowed only on the quantity of spirits used in the manufacture of medicines and medicinal products which actually have been sold or otherwise transferred for nonbeverage purposes within each quarterly period, according to Regulations 29 issued by the office of the Commissioner of Internal Revenue, Treasury Department, Washington, D. C. Thus it will be necessary for the pharmacist to keep detailed records covering not only the amount of distilled spirits he uses for the manufacture of various medicinal preparations, but the quantity of such products which he sells during each three months.

For the convenience of practicing pharmacists, the regulations may be summarized as follows:

1. The drawback will be allowed only on distilled spirits produced in domestic distilleries or industrial alcohol plants and on which the internal revenue tax has been paid according to the rates existing on and after November 1, 1942.

2. To be eligible to claim the drawback, the person, partnership or corporation must pay a special tax of \$25 per year for total annual withdrawals not exceeding 25 proof gallons; \$50 per year for total annual withdrawals not exceeding 50 proof gallons; or \$100 per year for total annual withdrawals of more than 50 proof gallons.

3. A year means the period from July 1 of one year to June 30 of the following year. The full tax for the year must be paid regardless of the month in which a claim for drawback is filed. In other words, the pharmacist who wishes to qualify for the drawback at once must pay the special tax as of last July 1 but he cannot claim a drawback on such distilled spirits as he used from July 1 to November 1, since such alcohol was not fully taxpaid according to rates existing on and after November 1. He can, however, claim a drawback on such alcohol as he had on hand November 1 and on which he paid a floor tax to make it fully taxpaid under the increased tax which went into effect November 1. In estimating the amount of alcohol he will purchase during this first year, in order to know whether to pay a \$25, \$50 or \$100 tax, the pharmacist should figure the amount he will purchase between November 1 and next June 30.

4. A separate special tax must be paid for each place at which fully taxpaid alcohol is used in the manufacture of nonbeverage products. Thus, if a pharmacist owns more than one pharmacy, he must pay a special tax for each pharmacy in an amount corresponding to the quantity of distilled spirits each pharmacy uses per year.

5. The special tax must be paid before the pharmacist can file his first claim for a drawback and he will, therefore, have to estimate the amount of alcohol he will purchase during the year. The tax may be paid before any alcohol is actually purchased or it may be paid when the first claim for drawback is made. Special tax returns, Form 11, may be obtained from any collector or deputy collector.

6. A pharmacist is not required to pay the special tax if he does not desire to claim a drawback on the distilled spirits he uses.

7. Pharmacists who file Form 11 with the proper tax remittance will be issued a special tax stamp designated "Manufacturer of Nonbeverage Products." The stamp must be conspicuously displayed in his prescription room. If the special tax stamps are not available by January 1, when pharmacists can make their

first claim for a drawback, Collectors will give a receipt covering the tax payment.

8. If a pharmacist estimates he will purchase and use not more than 25 proof gallons, and pays a \$25 tax, but finds that during the year he purchases and uses more 25 proof gallons of alcohol, he must pay the higher special tax of \$50 or \$100 as the case may be, and obtain a stamp therefor. He may then submit his \$25 special tax stamp with a claim for refund on Form 843.

9. A pharmacist who pays a special tax of \$100 or \$50, and who purchases and uses less than the 50 or 25 proof gallons, as the case may be, may file a claim on Form 843 for refund of the difference between the special tax paid and the special tax due.

10. To obtain a drawback the pharmacist must file Form 843, "Claim," in triplicate with the Collector of Internal Revenue for the district in which his pharmacy is located. He can claim a drawback not on the amount of alcohol he used for medicinal products, but only on the amount of alcohol he used for medicinal products that were sold or otherwise transferred during the quarter.

11. The pharmacist must file a claim for his drawback within the three months next succeeding the quarter in which the nonbeverage products covered by the claim were sold or otherwise transferred.

12. The claim for tax drawback must include the following information:

- (a) Evidence that the distilled spirits were fully taxpaid. If the spirits were obtained in barrels, drums, cans or cases bearing taxpaid stamps, the pharmacist must furnish the serial number of the taxpaid stamp affixed to the container, the date of taxpayment appearing on the stamp, the serial number of the container, if any, the name and address of the vendor, and the kind and proof of the spirits. When the package is emptied, the stamp must be scalped and attached to the next claim filed for drawback on the spirits which were in such package. If the distilled spirits were received in bottles, the pharmacist must furnish the name and address of the bottler, the kind and proof of the spirits as shown on the label, the serial number of the strip stamp affixed over

the mouth and neck of the bottle, and the name and address of the vendor.

- (b) The name and description of the product manufactured and its alcoholic content by volume [a U. S. P., N. F., or A. I. H. (American Institute of Homeopathy) product should be so designated], the quantity of each product sold or otherwise transferred, and the number of proof gallons of distilled spirits used in each product.
- (c) The serial number of the pharmacist's special tax stamp, the fiscal year for which it was issued, the date it was issued, and the collection district in which it was issued.
- (d) If the claim is the first one to be filed for a particular product, and it is not a U. S. P., N. F. or A. I. H. article, the quantitative formula for the product must be attached to the claim. The person filing such claims should number the formulas he submits, beginning with the number 1, and thereafter he merely has to give the formula number in submitting claims. Although no specific ruling has been issued on the point, it is believed that a pharmacist who used distilled spirits in a prescription will have to list merely the number of the prescription, rather than give all of the ingredients.

13. Claims for the drawback must be filed, in triplicate, with the Collector, who will keep one copy and send two copies to the District Supervisor of the Alcohol Tax Unit. The District Supervisor will make such inquiries and investigations as he feels necessary to verify that the drawback claimed is allowable, and he will forward the claim with his report and recommendation to the Commissioner.

14. No drawback is allowable on distilled spirits lost by causes such as spillage, leakage or breakage, or on distilled spirits used in the manufacture of nonbeverage products which are lost or destroyed prior to sale or transfer.

15. Every person who intends to claim a drawback must keep a permanent record showing the following:

- (a) The quantity, proof and kind of distilled spirits received.
- (b) Name and address of the person from whom the spirits were received.

- (c) Kind of container and serial number thereof, serial number of certificate of tax-payment (if tank car), serial number of taxpaid distilled spirits stamp (if barrel, drum, can or case), or serial number of strip stamp (if bottle).
- (d) Date on which received.
- (e) Number of proof gallons and kind of distilled spirits used in the manufacture of each product, and the date of use.
- (f) Name of each product in the manufacture of which distilled spirits were used.
- (g) Quantity of each product produced and the alcoholic content thereof.
- (h) Name and address of the purchaser.
- (i) Quantity of each product sold to each purchaser.
- (j) Date of sale of product to each purchaser.

The records required by items (h), (i) and (j) need not be kept for products containing less than 3 per cent of distilled spirits by volume or for products sold by the producer direct to the consumer in retail quantities. The Commissioner may, however, require the keeping of such records upon 5 days' notice

No particular form of record is prescribed, but the information must be readily ascertainable from such records as are used, and the records must be kept complete and current at all times. The records must be retained in the place of business and must be open to inspection by government officers during regular business hours. The records must be retained for a period of not less than 3 years. Pharmacists should also keep invoices, cancelled checks, and other records dealing with their purchase and use of distilled spirits.

16. If the pharmacist moves his pharmacy to a new location during the fiscal year covered by his special tax stamp, he must, within 90 days, notify the Collector for his district, file an amended Form 11, and surrender his special tax stamp. If the new location is within the same district, the Collector will change the address on the face of the pharmacist's special tax stamp and return it. If the new location is in a different collection district, the Collector will forward the stamp to the Collector of the district in which the new location is situated and that Collector will change the address on the tax stamp and return it to the pharmacist. If a pharmacist fails to notify the Collector of the

removal of his pharmacy, he must pay a new special tax for the new location.

Note: Alcohol is taxed by the Treasury Department on the basis of proof gallons. The term a "proof gallon" means a wine gallon of 100 proof alcohol which contains 50 per cent by volume of absolute alcohol. An alcohol which contains 100 per cent by volume of absolute alcohol would thus be 200 proof and a wine gallon of it would be equivalent to 2 proof gallons. Alcohol U. S. P. contains 94.9 per cent by volume of absolute alcohol and thus one wine gallon of alcohol as purchased and used by the pharmacist is 189.9 proof, or the equivalent of 1.89 proof gallons. A license fee is \$25 on the purchase of 25 proof gallons of alcohol is, therefore, the equivalent of a \$25 fee on about 13 wine gallons of Alcohol U. S. P., and a drawback of \$3.75 per proof gallon is the equivalent of a drawback of about \$7.00 per wine gallon of Alcohol U. S. P. Thus, if a pharmacist uses 13 wine gallons of Alcohol U. S. P. in a year, the drawback he receives on the first 3½ gallons of alcohol will pay his license fee of \$25 and he will obtain a net benefit of the drawback on the remaining 9½ gallons amounting to over \$60.



A. PH. A. OFFERS SIMPLIFIED FORMS FOR ALCOHOL TAX DRAWBACK RECORDS

IN VIEW of the requirement that pharmacists keep detailed records of their purchase and use of distilled spirits if they wish to claim the tax drawback authorized by the Revenue Act of 1942, the AMERICAN PHARMACEUTICAL ASSOCIATION, has prepared simplified forms to make it easy for pharmacists to keep such records.

Regulations 29 do not prescribe any particular form of record that the pharmacist must keep but they do state that every person intending to claim the drawback must keep a complete and current record of the quantity, proof and kind of spirits received, the date received, the name and address of the person from whom it is received, the kind of container in which it is received, the serial number of the certificate of tax payment, the number of proof gallons and kind of spirits used in the manufacture of each product, the name of the product, the date of use, the quantity manufactured, the alcoholic content of the product, and the quantity of the product sold. Such information

must be readily ascertainable from such records as are kept and the records must be kept complete and current at all times, and be retained on file for not less than three years.

The record forms developed by the A. Ph. A. are $8\frac{1}{2}'' \times 11''$, punched to fit an ordinary loose-leaf notebook. The forms have been prepared to meet the requests of pharmacists for some sort of record form and are offered in basic units consisting of 1 set of Regulations 29 in full, 1 page for "Record of Purchases," and 20 pages of "Record of Use," for fifty cents per unit. Extra pages of the "Record of Use" may be obtained at the rate of twenty-five cents per set of 20 pages. Pharmacists should address their orders, enclosing payment, to THE AMERICAN PHARMACEUTICAL ASSOCIATION, 2215 Constitution Avenue, N.W., Washington, D. C.

Readers of THIS JOURNAL may fill out the coupon at the bottom of this page and mail it in with check, money order or stamps to cover the charge.

Pharmacists will be eligible on January 1, 1943 to a tax drawback on the alcohol they used in the preparation of medicines and sold for non-beverage use during November and December 1942—but detailed records must be kept to support claims.

AMERICAN PHARMACEUTICAL ASSOCIATION
2215 Constitution Avenue, N.W.
Washington, D. C.

Please send me

- ____ sets of "*The Pharmacists' Simplified Alcohol Record*" consisting of a set of Regulations 29, one sheet of "Record of Purchases," and 20 sheets of "Record of Use." Price 50 cents per set.
- ____ sets of twenty extra sheets of the "Record of Use." Price 25 cents per set.

(Name)

(Address)

Dalibour's Water

PROJECT NO. 4 IN A PROGRAM
ON PRODUCTIVE DETAILING

by CHARLES HALL EVANS

CHAIRMAN, COMMITTEE ON PROFESSIONAL RELATIONS

CALL THE ATTENTION OF THE
PHYSICIANS YOU SERVE TO
THIS 200-YEAR OLD SOLUTION
THAT IS ATTRACTING SO MUCH
NOTICE IN THE MEDICAL PRESS

Pharmacists may expect to receive prescriptions for the product from physicians who read the article in either of the journals and decide to try the new solution, in fact the aggressive pharmacist will call the attention of physicians in his community to the clinical reports, make up sample quantities of the product and suggest that they try it.

ALTHOUGH clinical reports on the sulfonamide drugs, the vitamins, the estrogens and various new chemotherapeutic agents all but monopolize the pages of today's medical journals and the attention of the average physician, considerable notice is currently being paid to a simple solution of minute quantities of copper sulfate, zinc sulfate and camphor, developed over two hundred years ago by a surgeon in the Army of Louis XIV, of France. The preparation is known as Dalibour's Water, named for Jacques Dalibour, the French surgeon, and despite its history, its formula is not found in modern formularies.

At the Annual meeting of the Medical Society of the State of New York a few months ago Drs. Timothy J. Riordan, Orlando Canizares, and George E. Morris, of the Department of Dermatology of New York University College of Medicine and the Dermatological Service of the Third Medical Division of Bellevue Hospital, New York City, read a paper based on the use of Dalibour's Water in 400 cases of traumatic wounds and pyogenic (pus producing) infections of the skin. The article was published in the *New York State Journal of Medicine* (Vol. 42, No. 8) and has been summarized and published by the *Digest of Treatment* (Vol. 6, No. 4). As a result, the information has received widespread attention.

FORMULA

The original formula for Dalibour's Water is as follows:

Copper sulfate.....	0.1
Zinc sulfate.....	0.4
Camphor water.....	1.0
Safranine.....	0.1
Distilled water, q. s.....	100.0

The solution is pink in color, odorless and clear in appearance. It has a mild, astringent, metallic taste.

The New York dermatologists usually use the solution in a 1:20 dilution as a wet dressing in the treatment of superficial pustular lesions of pyoderma, in secondarily infected scabies and in infectious eczematoid dermatitis. The pH of a 1:20 dilution is 5.3 if distilled water is used; 6.3 if ordinary tap water is used. Localized pyogenic ulcerations and erosions, such as mild cases of impetigo, may be treated with local applications of the solution in a 1:3 dilution, but this strength solution is not recommended for wide areas. In using wet dressings, strict supervision should be observed to see that they are not allowed to dry out. The authors have used the solution in dilution of from 1:8 to 1:30 in the treatment of



dermatophytosis, hypostatic dermatitis and dermatitis venenata, when superficial secondary infection required prompt attention.

The astringent, deodorant and antiseptic properties of the solution make it of value to help make pemphigus patients more comfortable. The patient is advised to take a 10- to 30-minute warm bath in the solution diluted 1:80. Such baths do not improve the pemphigus but do make the patient more comfortable.

The solution is also used by the authors as a deodorant, in dilutions of 1:10 to 1:20, in cases of granuloma inguinale, condyloma acuminatum, and severe malignancies and in controlling the excessive, malodorous perspiring which accompanies various diseases.

A variation on the original formula, developed by the authors, is sometimes used. It is as follows:

Copper sulfate.....	0.02
Zinc sulfate.....	0.06
Glycerin.....	4.00
Witch hazel water.....	30.00
Orange flower water, q. s.....	120.00

Another variation, used principally in the treatment of indolent leg ulcers, is as follows:

Copper sulfate.....	0.03
Zinc sulfate.....	0.12
Bentonite.....	7.00
Water, q. s.....	120.00

Dalibour's Water can be incorporated in such preparations as Lassar's paste, lanolin, bentonite



paste and Aquaphor. The authors suggest the following formula for a paste:

Copper sulfate.....	0.04
Zinc sulfate.....	0.16
Distilled water.....	6.00
Lanolin.....	10.00
Zinc oxide.....	4.00
Petrolatum, <i>q. s.</i>	30.00

Commenting at the New York State Meeting where the paper on Dalibour's Water was presented, Dr. Frank C. Combes, Professor of Dermatology at the New York University School of Medicine, described the product as an "effective bacteriostatic, astringent and sedative solution for use as a wet compress."

The three dermatologists concluded their paper with the statement, "We believe Dalibour's Water deserves a more widespread use."

Since the articles referred to have appeared, other references have been made in the medical literature to this preparation. In the current issue of *The Military Surgeon* (Vol. 91, No. 5), for example, Maj. Morris H. Saffron, Medical Corps, U. S. Army, in an article on "Dermatology and the War," notes the fact that in the treatment of impetigo there is a tendency away from the use of ointments and he calls attention to the use of Dalibour's Water (as D'Alibour's Lotion, by which it is also known) in such therapy.

DETAIL THIS PRODUCT

Dalibour's Water is another product out of the pages of current medical journals that can be made available to the physician only through the services of the pharmacist. It is a preparation which was considered sufficiently important, in the first place, for three dermatologists in New York to investigate clinically. They considered its effectiveness of sufficient importance to present a paper on the subject before the New York State Medical Society. The Society considered the paper sufficiently important to publish and the editors of *Current Medical Digest* considered it sufficiently important to republish in summary form. Doesn't that indicate that the preparation is sufficiently important for you to call it to the attention of physicians and suggest they try it?

The Professional Relations Committee of the AMERICAN PHARMACEUTICAL ASSOCIATION follows the medical journals of the country closely and notes those clinical reports which deal with preparations which the pharmacist can detail

most effectively. This gives the pharmacist the opportunity of presenting *new* professional information to the physician and, since the material is taken from medical journals, the preparations have sufficient clinical background to justify their trial by physicians generally.

This new program is an *individualized* project. It is fundamentally sound and extremely practical but it places the matter of detailing squarely on the shoulders of the *pharmacist* where it should rest. To the individual who will take this material and do a job with it, the program offers tremendous possibilities in extending professional services, yet it will not embarrass the man who is not interested in detailing doctors, for the physician will learn of these new drugs and preparations only through *individual pharmacists who are interested* and prescriptions for the preparations will naturally be directed to them.

Although our Committee is carrying this program as part of its work, it is really the *pharmacist's own detailing program*. All we can do is dig out the information from medical journals, test the formulas in the A. PH. A. Laboratories to make sure they are workable and place the material in the hands of the pharmacist. From that point on, it's up to the individual pharmacist.

We hope that this new program will encourage physicians to make a greater use of the professional services which pharmacists are prepared to render. We realize, however, that the individual pharmacist must do his job thoroughly if the program is to go forward. The success or failure of the program rests entirely in the hands of each pharmacist. This is an *individualized* project and whether or not it "clicks" in your community depends upon what you do with the material—no one can do it for you. The Committee will welcome the inquiries, criticisms and suggestions of practicing pharmacists.

The Professional Relations Committee has received many letters, folders, and sample advertisements from medical journals showing how pharmacists are using the material presented in this series of articles on Productive Detailing.

If you are finding this information of value, won't you write the Committee and tell us exactly how you are using it so that future articles may be designed as nearly as possible to your special requirements?

AN ANALYSIS OF THE PRESCRIPTION FOR THE SKIN

by HERMAN GOODMAN, B.S., M.D.
OF NEW YORK CITY

DISCUSSING 121 CONSECUTIVE
PRESCRIPTIONS FOR THE SKIN AS
PRESENTED TO ONE PHARMACY
IN A PERIOD OF FIVE MONTHS

(Continued from October Issue)

RESORCIN

Five prescriptions called for resorcin.

- | | | |
|-------|--------------------------------------|------|
| (101) | Resorcin..... | 0.3 |
| | Vaseline, to make..... | 15.0 |
| (102) | Resorcin.....grains | 5 |
| | Zinc sulfate, | |
| | Potassa sulfurata, of each.....ounce | 1 |
| | Aqua rosae, to make.....ounces | 8 |

This is a resorcin fortified white lotion. The concentration of resorcin is very low—one-eighth of one per cent. The reducing action of the freshly released sulfides and polysulfides of the incompatible mixture of acid zinc sulfate and alkaline potassa sulfurata solutions probably acts on the resorcin before the latter has any opportunity of exerting an influence on the skin at the site of application.

- | | | |
|-------|------------------------------|----|
| (103) | Resorcin.....drams | 2 |
| | Betanaphthol.....grains | 30 |
| | Cinnabar.....grains | 10 |
| | Sulfolac, to make.....ounces | 4 |

Here is a commercial variant of white lotion. Sulfolac is a solid prepared by mixing 100 per cent solutions of zinc sulfate and potassa sulfurata. The precipitate catches and holds in physical union a small quantity of the liberated hydrogen sulfide gas evolved by the interaction. Cinnabar is a form of mercuric sulfide. Resorcin and beta-

naphthol have about the same action, although the toxicity of the former is said to be less than that of the latter.

- | | | |
|-------|----------------------------------|-----|
| (104) | Resorcin.....grains | 20 |
| | Betanaphthol.....grain | 1 |
| | Sodium hyposulfite.....ounce | 1/2 |
| | Alcohol.....ounce | 1 |
| | Witch hazel, to make.....ounces | 4 |
| (105) | Bichloride of mercury.....grains | 2 |
| | Resorcin.....drams | 2 |
| | Chloral hydrate.....dram | 1 |
| | Castor oil.....minims | 10 |
| | Spirit vini rectificatum, | |
| | to make.....ounces | 8 |

It should be recalled that resorcin stains gray hair a peculiar green.

MISCELLANEOUS

The prescriptions which follow do not offer opportunity for further classification. We give them as presented. For the most part, previous comment covers their deficiencies, if such exist.

- | | | |
|-------|--------------------------------|------|
| (106) | Precipitated sulfur..... | 0.3 |
| | Compound quinoclor ointment... | 10.0 |
| | Aquaphor. | |
| (107) | Naftalan..... | 3. |
| | Lassar's paste, to make..... | 30. |
| (108) | Picis..... | 3. |
| | Pasta Zinci..... | 60. |

Notice that no indication of which tar is requested. The pharmacist either takes the first that comes to hand, or calls the prescriber.

- | | | |
|-------|-------------------------------|------------|
| (109) | Ichthyol.....dram | 1/2 |
| | Pulverized galla.....grains | 20 |
| | Boric acid ointment.....ounce | 1 |
| (110) | Tumenol ammonium..... | 2 per cent |
| | Lanolin, | |
| | Vaselin, of each enough. | |

The quantity was not noted.

(111)	Tumenol ammonium.....	1.0
	Zinc oxide,	
	Talc, of each.....	10.0
	Yellow vaselin, to make.....	50.0
(112)	Tumenol.....	1.5
	Liquor Burowi.....	6.0
	Gentian violet.....	0.3
	Aquaphor.....	9.0
	Vaselin, to make.....	60.0
(113)	Tumenol,	
	Bismuth subgallate,	
	Anesthesin, of each.....	dram 1/2
	Lanolin.....	ounce 1
(114)	Oleoresin capsici.....	grains 5
	Metaphen in oil.....	ounces 4
(115)	Oleoresin capsici.....	grain 1
	Liniment croton.....	drams 1 1/2
	Mercury bichloride.....	grains 2
	Tincture cantharides.....	ounce 1/2
	Spirit formic acid.....	dram 1
	Spirit vini recti.....	ounces 3
	Bay rum.....	trace
	Distilled water, to make....	ounces 8
(116)	Precipitated sulfur.....	3.
	Borax.....	5.
	Oleum rusci.....	7.
	Green soap.....	187.0

There is no doubt that the foregoing prescription is from an old-timer in medicine. The pharmacist makes the notation on the order to give tincture of green soap as the vehicle.

(117)	Cinnabar.....	1.0
	Precipitated sulfur.....	5.0
	Zinc oxide,	
	Boric acid,	
	Glycerin, of each.....	10.0
	Alcohol, 50%, to make.....	100.0
(118)	Quinine hydrochloride,	
	Chloral hydrate,	
	Croton liniment,	
	Castor oil, of each.....	1.0
	Pilocarpine hydrochloride.....	0.5
	Betanaphthol.....	1.0
	Alcohol.....	90.0
	Camphor water, to make.....	200.0
(119)	Carbon tetrachloride.....	12.0
	Calamine.....	30.0
	Zinc oxide.....	30.0
	Olive oil.....	30.0
	Lime water, to make.....	240.0

The prescriber gave the directions: "M. et fiat Lotio".

The pharmacist took great pride in forming an emulsion of the olive oil and lime water. Modernization of this formula would result in forming a soap of the carbon tetrachloride with the synthetic emulsifiers, such as triethanolamine or mixed propanolamines.

BENZOCAINE

The final prescriptions include benzocaine.

(120)	Benzocaine.....	0.5
	Aquaphor.....	10.0
	Unguentum aqua rosae.....	20.0
	Lassar's paste, to make.....	60.0
(121)	Benzocaine.....	12.0
	Liq. alum acetatis, 5%.....	30.0
	Zinc oxide,	
	Talc, of each.....	35.0
	Olive oil.....	30.0
	Lime water, to make.....	240.0

COMMENT

The prescriptions transcribed have not been changed in any essential particular. No efforts have been made to unify the mode of prescription writing. The lack of uniformity in nomenclature, the mixture of English and pidgin Latin, the complete disregard for value in measurement, all of these are reflected from the originals. The pharmacist has trouble in the habit of prescribers to order 100 parts since the ointment jars and bottles are manufactured on the basis of ounces. A container of three ounces does not hold the full quantity; a four-ounce container seems only partially filled.

The physician disregards the possible need of the patient for the prescription. A scalp lotion may be ordered from two ounces to eight ounces as in the series of euresol prescriptions. The directions were most limited; just "apply" satisfied nearly all. One or two asked that a brush such as camel hair be supplied for the application of the lotion. Not one prescription called for directions to be written on the label for washing prior to application nor gave directions as to removal. No prescription called for soap. No period limitation was asked, nor did any prescription note that a copy or repeat was to be denied the patient.

ANALYSIS OF 121 CONSECUTIVE PRESCRIPTIONS FOR THE SKIN
PRESENTED TO A NEW YORK CITY PHARMACIST DURING WINTER OF 1939

Number of prescriptions intended for the skin: 121

For internal administration: Pills 4; liquid 1; total 5.
 For external application: Powders (including one tablet) 8.
 Liquid 43.
 Greases 65.

There were 88 named ingredients and combinations. These appeared 35 times in the powders; 156 times in the liquids; and 187 times in the greases. The ingredients for internal administration are not included in the above.

Ingredient	Number of Prescrip- tions	Pow- ders	Liq- uids	Grea- ses				
Salicylic acid	25	3	5	17	Methyl salicylate	1	..	.. 1
Phenol	21	..	8	13	Nupercain	1	..	.. 1
Menthol	20	2	7	11	Oil of Bay	1	..	1 ..
Zinc oxide	20	..	9	11	Oil Cade	1	..	.. 1
Alcohol	15	..	15	..	Oil Eucalyptus	1	..	.. 1
Boric acid	14	4	2	8	Pilocarpine hydrochloride	1	..	1 ..
Aquaphor	13	..	..	13	Quinine hydrochloride	1	..	1 ..
Rose water	13	..	4	9	Quinochlor ointment	1	..	.. 1
Ammoniated mercury	12	..	..	12	Resinol ointment	1	..	.. 1
Calamine	11	..	10	1	Spirit camphor	1	..	1 ..
Lanolin	11	..	..	11	Sulfoform spirit	1	..	1 ..
Resorcin	11	..	6	5	Sulfolac	1	..	1 ..
Resorcin monoacetate	8	..	8	..	Thigenol	1	..	.. 1
Petrolatum	8	..	..	8	Tincture iodine	1	..	1 ..
Glycerin	7	..	7	..	Vitamins A & D	1 (pills 1)	..	.. ..
Bismuth subgallate	7	2	..	5	Vlemminckx's solution	1	..	1 ..
Talc	6	5	1	1	Whitfield's ointment	1	..	.. 1
Bichloride of mercury	6	..	6	..	Zinc stearate	1	1	.. ..
Castor oil	6	..	6	..	Cinnabar	2	..	2 ..
Olive oil	5	..	3	2	Croton liniment	2	..	2 ..
Starch	5	2	3	3	Ichthyol	2	..	.. 2
Lime water	5	..	5	..	Lassar's paste	2	..	.. 2
Betanaphthol	5	..	5	..	Liq. Carbonis deterg.	2	..	2 ..
Vaselin	5	..	..	5	Lotio alba	2	..	2 ..
Water	5	..	3	2	Mixed treatment	2 (pills 1)	..	1 ..
Tumenol ammonium	4	..	..	4	Naftalan	2	..	.. 2
Potassium permanganate	3 (tablet 1)	1	1	..	Oleum Rusci	2	..	1 1
Sulfur	4	1	1	2	Pix Liquidum	2	..	.. 2
Cologne spirit	3	..	3	..	Sodium thiosulfate	2	1	1 ..
Liq. Alum. Acetates	3	..	2	1	Thymol iodide	2	2	.. ..
Anesthesin	3	..	..	3	Tin oxide	2 (pills 2)	..	.. ..
Albolene	2	..	..	2	Witch hazel	2	..	2 ..
Almond oil	2	..	1	1	Anthrasol	1	..	1 ..
Balsam Peru	2	..	..	2	Benzoic acid	1	..	.. 1
Bay Rum	2	..	2	..	Bismuth subnitrate	1	..	.. 1
Camphor	2	1	1	..	Borax	1	..	1 ..
Capsicum tincture	2	..	2	..	Calmitol	1	..	.. 1
Chloral hydrate	2	..	2	..	Cantharides tincture	1	..	1 ..
Kummerfeld (Doak)	1	..	1	..	Capsicum tincture	1	..	1 ..
Liq. Plumbi acetatis	1	..	1	..	Carbon tetrachloride	1	..	1 ..
Magnesium carbonate	1	..	1	..	Carboneol	1	..	.. 1
Metaphen	1	..	1	..	Formic acid spirit	1	..	1 ..
					Galla	1	..	.. 1
					Gentian violet	1	..	.. 1
					Green soap	1	..	1 ..
					Iodex	1	..	.. 1

EXPERIENCES IN ENGLAND

MODIFY OCD FIRST AID MEASURES

THE DARKNESS, DIRT AND CONFUSION AT THE SCENE OF AN INCIDENT MAKE IT IMPOSSIBLE TO USE MOST PEACETIME METHODS, REPORTS DOCTOR GEORGE BAEHR AFTER HIS RECENT INSPECTION TRIP ABROAD

RETURNING from an extended visit to Great Britain where he carefully studied the emergency medical facilities which have been developed through three years of experience with actual air raids, Dr. George Baehr, Chief Medical Officer of the Office of Civilian Defense, Washington, D. C., has modified many of the first aid procedures heretofore recommended by OCD.

Of the many lessons learned in England and Scotland, perhaps the most important is that most air raids usually occur at night, most of the casualties are crushing injuries caused by falling debris in demolished buildings, and the majority of the injured require hospital care. The darkness, the presence of structural debris, the great amount of dust that fills the air, and the urgent need for immediate hospitalization make it impossible to apply most peacetime first aid measures.

The British have discarded tannic acid jelly as a first aid dressing for burns because (1) the burned surface is invariably grossly contaminated with dirt, (2) the jelly deteriorates rapidly, and (3) tannic acid ignites in the presence of phosphorus when applied to burns caused by the explosion of phosphorus-oil bombs. Wounds are usually so contaminated with dirt that rescue-first aid workers merely cover them with shell dressings and send the casualty to the hospital.

Tourniquets are rarely used as most hemorrhages are controllable with pressure dressings.

Traction splints are not used unless the casualty has to be transported a long distance over a country road. The darkness and conditions of an air raid make the hurried application of traction splints difficult, if not impossible, and a few miles of travel over paved roads to a hos-

pital do not warrant their use. The fractured extremity is placed gently in alignment and bound with triangular bandages to the uninjured leg, or to an improvised splint, or a Thomas splint is applied if one is available. Movement of the fractured member can be minimized by the snug application of blankets or by the use of sand bags.

Shock is treated at the scene of the incident by the prompt administration of morphine (up to $\frac{1}{2}$ grain for adults), Coramine, proper blanket-ing, the administration of fluids, and the use of hot water bottles during transportation to the hospital. The use of plasma or blood transfusion is ordinarily impossible in the darkness, dirt and confusion at the incident and is, therefore, employed after arrival at the hospital.

In metropolitan cities the field casualty services may handle 2500 to 3500 casualties during a night raid. All serious casualties are moved directly to hospitals, never to first-aid posts. Heavy raids are apt to be repeated on subsequent nights when the protective forces are exhausted

AMBULANCES MUST CARRY FOUR

A large fleet of four-stretcher ambulances is essential for life saving. Fourteen thousand ambulances were made in England and Scotland by purchasing used cars, stripping them, and then mounting a simple ambulance body on the chassis. London uses over 1500 of such ambulances and 550 sitting-case cars. The use of tradesmen's trucks proved universally unsatisfactory: 3 out of 4 never arrived on the scene, and lives were lost due to the delay and confusion. Because of the large number of casualties to be transported in a few hours, no ambulances which carry less than 4 stretchers are employed. For the simultaneous evacuation of damaged hospitals, a fleet of 200 converted busses carrying 10 stretcher cases and 6 to 10 sitting cases are immediately available, and another 200 are obtainable within two hours.

CASUALTY STATIONS

Casualty stations (British fixed first-aid posts) are necessary at or near all hospitals and at

places more than a mile from hospitals to care for minor casualties which do not require hospitalization. Many are now on a care-and-maintenance basis and are activated only during a raid. When functioning, the staff usually consists of one or two doctors, several nurses, and a variable number of aides and auxiliaries.

In large cities casualty stations need not be more numerous than 1 per 25,000 inhabitants; they should be located about a mile apart. There are less than 300 in the London area, with a population of about 10,000,000 and a land area more than twice that of Greater New York. In smaller, thinly settled communities, they are more numerous in relation to population, but the distances between them are proportionately greater than in metropolitan cities. Many of the minor casualties are moved to first-aid posts in sitting-case cars; some walk.

STRETCHER TEAMS UNNECESSARY

First-aid parties (our stretcher teams) are not necessary, are largely a waste of manpower, and are rapidly being eliminated. First aid at incidents is essentially a function of the rescue parties (our rescue teams), which extricate the casualties from under the debris of demolished buildings. All first-aid parties in England and Scotland are, therefore, being merged into the rescue parties. They include a leader, an assistant leader, and eight other members, and are entirely independent of the fire department. They are a life-saving service related to the medical services concerned in field casualty work.

The presence of a physician at the incident is invaluable, but more than one is unnecessary. In fact, one physician may cover several nearby incidents, leaving his nurse or one of the nursing auxiliaries of his emergency team at the incident while he moves temporarily from one to another in the immediate neighborhood.

Even though a single night's casualties requiring hospitalization may total one or two thousand, large hospitals rarely receive more than 50 to 100, the load being distributed as evenly as possible throughout the city.

A large casualty receiving hospital is often related to one or more peripheral hospitals in the suburbs or in a country district. There are now four base hospital beds for each casualty bed in the cities.

EXPRESS PARTY

Upon receipt at a local report and control center of a message from an air-raid warden that an incident and casualties have occurred, an "express party" is immediately dispatched to the scene. An "express party" includes one rescue-first aid party, one ambulance, one sitting-case car, and one mobile medical unit (our mobile medical team.) The latter consists of one physician, one nurse, and two auxiliaries. No other equipment and personnel of the emergency medical service is dispatched unless additional assistance is requested by the incident officer (usually a higher police official) or by the incident physician on the scene. In this manner useless movement is avoided and equipment and personnel of the community are carefully conserved.



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Photo by Universal Press

DR. GEORGE BAEHR

Chief Medical Officer of the Office of Civilian Defense, Washington, D. C., who has just returned from an extended visit to Great Britain where he studied the emergency medical facilities which have proved most effective during actual air raids.

DR. K. L. PICKRELL DEVELOPS PRE-FORMED SULFADIAZINE FILM

NEW PRODUCT USED AT JOHNS HOPKINS UNIVERSITY HOSPITAL FOR TREATMENT OF BURNS AND OTHER WOUNDS, OVERCOMES THE TWO CHIEF DISADVANTAGES OF TRIETHANOLAMINE-WATER SPRAY OF SULFADIAZINE HE INTRODUCED

ALTHOUGH his 2.5 per cent solution of sulfadiazine in 8 per cent triethanolamine in water has proved a most effective spray for the treatment of burns and has won wide acceptance among physicians, Dr. Kenneth L. Pickrell, of the Department of Surgery, The Johns Hopkins University and Hospital, Baltimore, has not been fully satisfied with it. He has continued his studies in an effort to overcome its two chief disadvantages: (1) since it is an aqueous solution, its drying time is slow as compared with other forms of treatment, and (2) the film formed over the burned surface is extremely thin and fragile.

In the November, 1942, issue of the *Bulletin of the Johns Hopkins Hospital*, (71, 5, 304-306) Dr. Pickrell announced his newest contribution to the therapy of burns: a pre-formed sulfonamide film. In his attempts to remedy the shortcomings of his aqueous solution, he investigated the possible use of various drying agents and plastic substances and found that methyl cellulose* would definitely improve its drying and film-forming properties. It occurred to him that instead of spraying the burned area and waiting for a protective film to form he might prepare a suitable film which could be applied to the burn.

Dr. Pickrell developed an emulsion of the following formula:

Sulfadiazine.....	3.0
Methyl cellulose.....	2.5
Triethanolamine.....	3.0
Sorbitol.....	0.5
Alcohol, 50 per cent, or	
Acetone, q. s.	100.

* Dr. Pickrell used Dow Methocel (15 centipoise), Dow Chemical Co., Midland, Mich.

The emulsion is sprayed on a smooth, horizontal glass surface with a pressure gun or a paint spray apparatus and allowed to dry. When acetone is used as the drying agent evaporation is very rapid, with alcohol several hours at 75° C. are required for drying before the film can be removed in a single sheet.

The sheets can be made in any size. They are stable and can be sterilized by dry heat. The film retains only a slight amount of moisture and composition studies indicate that it ordinarily contains from 35 to 50 per cent of sulfadiazine.

When a segment of the film is placed beneath the skin of a rabbit, absorption takes place, sulfadiazine is detected in the blood within several hours, and at the end of 24 hours the film is completely disintegrated.

Dr. Pickrell has used the sulfonamide film in more than 100 cases, half of them burns. He has used both a sulfadiazine film and a sulfanilamide film, but believes the sulfadiazine preparation offers a greater measure of local protection against infection.

BURN CASES

In treating a burn, a surgical detergent is used to clean the surface and surrounding skin if the area is grossly contaminated. The area is next washed with saline sulfadiazine, or Azochloramid solution and while the skin is still moist, the sulfadiazine film is placed on the burned surface, allowing a good margin of film since the size of a burn after 24 or 48 hours may greatly exceed its original visible size. The film is as pliable as thin paper, but may need to be trimmed in such areas as the axilla or web spaces of the hands. A smooth, firm pressure dressing of gauze is applied. In the case of second degree burns, epithelization will be taking place in three to five days. In third degree burns and exudative lesions the film may be renewed as often as necessary. Since the film is translucent, it does not have to be removed to allow inspection of the injured area.

NON-BURN CASES

Dr. Pickrell has used the sulfadiazine film in 50 non-burn cases to cover incisions, lacerations,

ions and abrasions, to prepare granulating areas or grafting, to cover the recipient and donor areas at the time of grafting, to cover abraded and ulcerating areas, and as a framework to hasten the closure and regeneration of perforated ear drums.

In 30 cases in which the film was used for the treatment of burns, bacteriological studies showed no infection. In the other cases there was no evidence of infection. When lower concentra-

tions of sulfadiazine than that shown in the suggested formula were used, infection did occur.

In addition to the treatment of burns, Dr. Pickrell believes that pre-formed sulfadiazine film may find a definite place in surgery, in the hospitalized and the ambulatory patient, and in cases in which infection is imminent, where surface drying is desired, or where moisture and resulting maceration coincident with the use of ointments is to be discouraged.



APPLICATION FOR MEMBERSHIP IN THE

American Pharmaceutical Association

Approving the objects of the American Pharmaceutical Association, I hereby apply for membership in the Association and subscribe for the "Journal of the American Pharmaceutical Association." I enclose \$_____ for my membership dues and subscription.

Check which you desire:

- ☐ Membership with the PRACTICAL PHARMACY EDITION, at \$5.00.
- ☐ Membership with the SCIENTIFIC EDITION, at \$6.00.
- ☐ Membership with BOTH EDITIONS, at \$7.00.

Name in Full _____
(Print name in full—Initials are not sufficient)

Number and Street _____

Date _____ Town _____ State _____

Paid \$ _____ No. _____

This application with the first year's payment may be sent to the Chairman of the Membership Committee, the Secretary or any officer of the A. Ph. A.

E. F. KELLY, Secretary,
2215 Constitution Ave.,
Washington, D. C.

WAR STANDARDS ADOPTED IN FIRST SUPPLEMENT TO N. F. VII

REVISION COMMITTEE TAKES COGNIZANCE OF SHORTAGE OF OIL OF DWARF PINE NEEDLES, GAMBOGE, RECTIFIED OIL OF BIRCH TAR, OLIVE OIL, AND EXPRESSED ALMOND OIL; EIGHT N. F. VI INTERIM REVISIONS REAFFIRMED; AND ERRORS IN TEXT OF N. F. VII CORRECTED

EIGHT emergency standards for National Formulary VI preparations, issued last year by Interim Revision to eliminate or replace drugs which had become scarce because of the war, have been reaffirmed by the National Formulary Committee and continued in N. F. VII, and six new permissive standards have been adopted, by the issuance of the First Supplement to the new edition. The Supplement, which became effective November 1, 1942, also contains corrections to certain errors which appear in N. F. VII.

The eight emergency standards which are continued in N. F. VII permit the following:

- (1) Replacement of Cudbear by Amaranth as a coloring agent.
- (2) Replacement of Extract of Belladonna by Extract of Stramonium in Compound Pills of Cascara.
- (3) Replacement of Oil of Lavender by Oil of Cedar Leaf in preparations for external use.
- (4) Replacement of Elixir of Iron, Quinine and Strychnine by Elixir of Iron and Strychnine.
- (5) Replacement of Elixir of Iron, Quinine and Strychnine Phosphates by Elixir of Iron and Strychnine Phosphates.
- (6) Omission of Quinine Hydrochloride from Compound Elixir of Glycerophosphates.

- (7) Omission of Quinine from Compound Syrup of Hypophosphites.
- (8) Omission of Orange Flower Water from N. F. Preparations.

The six new emergency standards permit the following deviations from official standards:

- (1) Omission of Oil of Dwarf Pine Needles from Jelly of Ephedrine Sulfate.
- (2) Replacement of Rectified Oil of Birch Tar by Juniper Tar in Compound Ointment of Resorcinol.
- (3) Recognition of Indian Valerian.
- (4) Omission of Gamboge from Compound Cathartic Pills.
- (5) Replacement of Olive Oil by Cottonseed Oil.
- (6) Replacement of Expressed Almond Oil by Persic Oil.

The official text of the First Supplement appears on the following pages. It is arranged in such a way that the pharmacist can file the pages devoted to permissive replacements in official formulas, and can cut out the individual corrections of errors and paste them in his copy of the National Formulary, if he so desires, or he can write in the changes and keep the complete text of the Supplement intact.

Reprints of the First Supplement to the National Formulary, Seventh Edition, may be obtained by sending a self-addressed, stamped envelope to Justin L. Powers, Chairman of the National Formulary Committee, 2215 Constitution Ave., Washington, D. C. The reprints are printed on one side of the page only so that the individual items can be cut apart and pasted in an N.F., if desired.

FIRST SUPPLEMENT

to the

NATIONAL FORMULARY

SEVENTH EDITION

I. PERMISSIVE REPLACEMENTS

Shortages of various drugs, as a result of the war, make necessary the following permissive replacements in National Formulary preparations:

Belladonna, Replacement of in *Pilulæ Cascaræ Compositæ*

Until further notice, 1 Gm. of Extract of Stramonium may be used in place of 0.8 Gm. of Extract of Belladonna in the formula for Compound Pills of Cascara.

Cudbear, Replacement of

By action of the Committee on National Formulary, and with the approval of the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION, Amaranth (F. D. C. Red No. 2) may be substituted for Persio (Cudbear) as a coloring agent in N. F. VII preparations in which the latter is used as a coloring agent. When Amaranth is used in place of Cudbear in the N. F. VII preparations listed in this announcement, it shall be employed in quantities which will reasonably simulate the color produced by Cudbear. If necessary, the alcohol content of the preparation involved must be adjusted to meet the requirements of N. F. VII.

The N. F. VII preparations which are directed to be colored with Cudbear or with Cudbear and Caramel, and the suggested concentrations of Amaranth to be used satisfactorily as a substitute are listed in Table 1. The formula for the Compound Solution of Amaranth suggested as a substitute for Compound Tincture of Cudbear in Table 1 is as follows:

LIQUOR AMARANTHI COMPOSITUS

Compound Solution of Amaranth

Liq. Amaranth. Comp.

Amaranth, 5 per cent aqueous solution	35 cc.
Caramel	100 Gm.
Alcohol	250 cc.
Distilled Water, a sufficient quantity,	
To make	1000 cc.

Dissolve the caramel in 700 cc. of distilled water, add the 5 per cent, w/v, solution of amaranth, the alcohol, and sufficient distilled water to make the product measure 1000 cc., and mix well.

Alcohol content—From 22 to 24 per cent, by volume, of C_2H_5OH .

Table 1

PREPARATION	N. F. VII COLORING AGENT	VOLUME PER LITER	RECOMMENDED COLORING AGENT	VOLUME PER LITER
Elixir Aminopyrinæ	Compound Tincture of Cudbear	10 cc.	Compound Solution of Amaranth	10 cc.
Elixir Ammonii Val- eratis	Compound Tincture of Cudbear	16 cc.	Compound Solution of Amaranth	30 cc.
Elixir Aromaticum Rubrum	Tincture of Cudbear	20 cc.	Dissolve 2.5 Gm. Amaranth in 1000 cc. of Aromatic Elixir	...
Elixir Cinchonæ Alkaloidorum	Compound Tincture of Cudbear	50 cc.	Compound Solution of Amaranth	50 cc.
Elixir Pepsini Com- positum	Tincture of Cudbear	10 cc.	5% Solution of Ama- ranth*	6 cc.
Liquor Aromaticus Alkalinus	Tincture of Cudbear	20 cc.	5% Solution of Ama- ranth.* Increase al- cohol from 50 cc. to 60 cc.	10 cc.
Syrupus Bromidorum	Compound Tincture of Cudbear	16 cc.	Compound Solution of Amaranth	16 cc.
Syrupus Cinnamomi	Compound Tincture of Cudbear	60 cc.	Compound Solution of Amaranth	60 cc.
Syrupus Pini Albæ Compositus	Cudbear	1 Gm.	5% Solution of Ama- ranth*	7 cc.
Tinctura Persionis Composita	Tincture of Cudbear	150 cc.	5% Solution of Ama- ranth*	35 cc.

* Use a 5 per cent, weight in volume, aqueous solution of Amaranth.

Expressed Almond Oil, Replacement of

Until further notice, an equal weight or volume of Persic Oil, U. S. P. may be used in place of Expressed Almond Oil in all National Formulary preparations in which the latter named oil is an ingredient.

Gamboge, Omission of, in Pilulæ Hydrargyri Chloridi Mitis Compositæ

Until further notice, Gamboge may be omitted from the formula for Compound Pills of Mild Mercurous Chloride.

Olive Oil, Replacement of

Until further notice, an equal volume or weight of Cottonseed Oil, U. S. P. may be used in place of Olive Oil in all National Formulary preparations in which the latter named oil is an ingredient.

Oil of Dwarf Pine Needles, Omission of

Until further notice, Oil of Dwarf Pine Needles may be omitted from the formula for Jelly of Ephedrine Sulfate in N. F. VII.

Oil of Lavender, Replacement of

Until further notice, an equal volume of Oil of Cedar Leaf U. S. P. may be used in place of Oil of Lavender in all National Formulary preparations *for external use* in which the latter named oil is an ingredient.

Orange Flower Water, Omission of

Until further notice, Water may be used in place of Orange Flower Water in National Formulary preparations in which the latter named product is an ingredient.

Quinine, Omission of

Elixir Ferri, Quininae et Strychninae

Due to the War Production Board Quinine Order issued April 4, 1942, restricting quinine for use only as an anti-malarial agent or as an ingredient of Quinine and Urea Hydrochloride, the following monograph is recognized by the National Formulary until further notice. This monograph is intended to provide a replacement formula for Elixir of Iron, Quinine and Strychnine, but must be labeled in accordance with the new monograph.

ELIXIR FERRI ET STRYCHNINÆ

Elixir of Iron and Strychnine

Elix. Ferr. et Strych.

Elixir I. and S.

Tincture of Ferric Citrochloride	125 cc.
Strychnine Sulfate	175 mg.
Compound Spirit of Orange	10 cc.
Alcohol	240 cc.
Glycerin	300 cc.
Distilled Water, a sufficient quantity,	
To make	1000 cc.

Mix the alcohol and the compound spirit of orange, then add the strychnine sulfate previously dissolved in 10 cc. of distilled water. Then add successively the glycerin, the tincture of ferric citrochloride, and sufficient distilled water to make the product measure 1000 cc.; mix well, and filter, using 10 Gm. of purified talc, if necessary, to clarify the product.

Storage—Preserve Elixir of Iron and Strychnine in tight containers, protected from light. The Elixir should not be dispensed if markedly darkened in color.
Alcohol content—From 23 to 26 per cent, by volume, of C_2H_5OH .

AVERAGE DOSE—Metric, 4 cc.; Apothecaries, 1 fluidrachm.

One average metric dose contains 0.5 cc. of Tincture of Ferric Citrochloride and 0.7 mg. of Strychnine Sulfate.

Elixir Ferri, Quininae et Strychninae Phosphatum

Due to the War Production Board Quinine Order issued April 4, 1942, restricting quinine for use only as an anti-malarial agent or as an ingredient of Quinine and Urea Hydrochloride, the following monograph is recognized by the National Formulary until further notice. This monograph is intended to provide a replacement

formula for Elixir of Iron, Quinine and Strychnine Phosphates, but must be labeled in accordance with the new monograph.

ELIXIR FERRI ET STRYCHNINÆ PHOSPHATUM

Elixir of Iron and Strychnine Phosphates

Elix. Ferr. et Strych. Phos.	Elixir I. and S. Phosphates
Soluble Ferric Phosphate	35 Gm.
Strychnine Phosphate	250 mg.
Oil of Orange	1 cc.
Alcohol	250 cc.
Glycerin	300 cc.
Distilled Water, a sufficient quantity,	
To make	1000 cc.

Dissolve the soluble ferric phosphate in 250 cc. of distilled water by cold maceration, and add 75 cc. of glycerin. Dissolve the strychnine phosphate in the alcohol, and add the oil of orange and the remainder of the glycerin. Shake until thoroughly mixed; then add the ferric phosphate solution and enough distilled water to make the product measure 1000 cc. Filter, using 10 Gm. of purified talc, if necessary, to clarify the product.

Storage—Preserve Elixir of Iron and Strychnine Phosphates in tight containers, protected from light. The Elixir should not be dispensed if markedly darkened in color.

Alcohol—From 22 to 25 per cent, by volume of C₂H₅OH.

AVERAGE DOSE—Metric, 4 cc.; Apothecaries, 1 fluidrachm.

One average metric dose contains 0.14 Gm. of Soluble Ferric Phosphate and 1 mg. of Strychnine Phosphate.

Elixir Glycerophosphatum Compositum

Until further notice, quinine hydrochloride may be omitted from the formula for Compound Elixir of Glycerophosphates in N. F. VII.

Syrupus Hypophosphitum Compositus

Until further notice, quinine may be omitted from the formula for Compound Syrup of Hypophosphites in N. F. VII.

Rectified Oil of Birch Tar, Replacement of

Until further notice, the Rectified Oil of Birch Tar prescribed in the formula for Compound Ointment of Resorcinol may be replaced by 2 Gm. of Juniper Tar, and the amount of Petrolatum increased from 25 Gm. to 29 Gm.

Valerian, Indian, Recognized

Following the official definition insert, "NOTE: Until further notice, when Valeriana is prescribed or demanded, Indian Valerian from *Valeriana Wallichii*, D. C. may be dispensed or supplied."

**THE
NATIONAL
FORMULARY**

**SEVENTH
EDITION
1942**

II ERRATA

Make the following corrections in the N. F. VII text:

ACIDUM ACETICUM DILUTUM, page 14—In the second line of the paragraph headed "Other tests" delete the words "formic or sulfurous acid," or paste the following paragraph over the paragraph as it appears in your copy:

Other tests—Diluted Acetic Acid meets the requirements of the tests for non-volatile residue, readily oxidizable substances, chloride, sulfate, and heavy metals prescribed under Acidum Aceticum, U. S. Pharmacopœia XII, allowance being made for the difference in strength.

ARECOLINÆ HYDROBROMIDUM, page 57—Change the definition to read as follows:

Arecoline Hydrobromide is the hydrobromide of an alkaloid obtained from the dried ripe seed of *Areca Catechu* Linne (Fam. *Palmæ*) or produced synthetically.

FLUIDEXTRACTUM APOCYNII, page 172—Change the "Average Dose" statement to read as follows:

AVERAGE DOSE—Metric, 0.06 cc.; Apothecaries, 1 minim.

FLUIDEXTRACTUM VIBURNI PRUNIFOLI, page 197—Change the "Average Dose" statement to read as follows:

AVERAGE DOSE—Metric, 4 cc.; Apothecaries, 60 minims.

ICHTHAMMOL, page 218—Change the first identification test to read as follows:

Identification—The addition of hydrochloric acid to an aqueous solution of Ichthammol (1 in 10) precipitates a dark resinous mass which is insoluble in ether.

LIQUOR ACIDI BORICI, page 234—Change the "Heavy Metals" test to read as follows:

Heavy metals—To 20 cc. of Solution of Boric Acid add 1 cc. of diluted acetic acid and enough distilled water to make 25 cc. The heavy metals limit of Solution of Boric Acid is 10 parts per million.

LIQUOR CARMINI, page 243—Change the second ingredient of the formula to read as follows: "Diluted Solution of Ammonia," or paste the following corrected formula over the formula in your copy:

Carmine	65 Gm.
Diluted Solution of Ammonia	365 cc.
Glycerin	365 cc.
Distilled Water, a sufficient quantity,	
To make	1000 cc.

LIQUOR POTASSI CITRATIS, page 260—Change the "Heavy Metals" test to read as follows:

Heavy metals—To 10 cc. of Solution of Potassium Citrate add 1 cc. of tenth-normal hydrochloric acid and enough distilled water to make 25 cc. The heavy metals limit of Solution of Potassium Citrate is 10 parts per million.

LIQUOR SODII CITRATIS, page 266—Change the last statement in the monograph to read as follows:

One average metric dose contains about 0.4 Gm. of Sodium Citrate

LIQUOR SODII PHOSPHATIS, page 267—Change the "Heavy Metals" test to read as follows:

Heavy metals—To 1 cc. of Solution of Sodium Phosphate add 1 cc. of diluted hydrochloric acid and enough distilled water to make 25 cc. The heavy metals limit of Solution of Sodium Phosphate is 10 parts per million.

PECTINUM, page 317—Change the last sentence in the test for arsenic to read as follows: "When tested for arsenic by the U. S. Pharmacopœia XII method, 5 cc. of this solution produces no more stain than that of a blank with 1.4 cc. of the standard arsenic solution, using like quantities of reagents, diluted and otherwise treated as directed above," or paste the following corrected paragraph in place of the "Arsenic" paragraph in your copy:

Arsenic—Add 2 Gm. of Pectin to 10 cc. of reagent nitric acid and 3 cc. of reagent sulfuric acid in a Kjeldahl flask. Heat until dense white fumes are evolved. If the mixture turns brown add more nitric acid and heat until colorless or light yellow; cool, add 10 cc. of distilled water and 0.5 Gm. of ammonium oxalate. Heat until dense white fumes are evolved. Cool and dilute to 25 cc. When tested for arsenic by the U. S. Pharmacopœia XII method, 5 cc. of this solution produces no more stain than that of a blank with 1.4 cc. of the standard arsenic solution, using like quantities of reagents, diluted and otherwise treated as directed above.

PULVIS IPECACUANHÆ ET OPII, page 346—Change line 2 of the description to read, "more or less cone-shaped, colorless fragments up to 400 microns in length," or paste the following corrected description over the description in your copy:

Description—A very pale brown powder, exhibiting coarse, angular, frequently more or less cone-shaped, colorless fragments up to 400 microns in length, very slowly soluble in water and in chloral hydrate T.S., and polarizing light with a strong display of color (fragments of lactose); other elements of identification are the tissues of ipecac and of the capsules of the opium poppy described in the U. S. Pharmacopœia.

SYRUPUS BROMIDORUM, page 402—Change the alcohol content statement to read as follows:

Alcohol content—From 4 to 6 per cent, by volume, of C_2H_5OH .

TABELLÆ COCAINÆ HYDROCHLORIDI, page 424—Change the last sentence in the Assay to read as follows, "Each cc. of twentieth-normal sulfuric acid is equivalent to 0.01699 Gm. of cocaine hydrochloride, $C_{17}H_{21}O_4N.HCl$, or paste the following corrected paragraph on "Assay" over the corresponding paragraph in your copy:

Assay—Weigh not less than 20 of the Tablets, reduce them to a fine powder without an appreciable loss, and dissolve an accurately weighed aliquot portion, of cocaine hydrochloride, in 10 cc. of distilled water. Add 10 cc. of alkaline with ammonia T.S., and completely extract successive portions of ether. Evaporate the combined ethereal extracts to one-half their volume on a steam bath, transfer the remaining liquid to a separator, and wash it with three 5-cc. portions of distilled water. Shake the water washings with a small portion of ether and add the ethereal washing to the combined ethereal extracts. Add 10 cc. of twentieth-normal sulfuric acid to the ethereal solution, agitate the mixture thoroughly, and draw off the acidified aqueous layer into a beaker. Again wash the ether with two small portions of distilled water, add the washings to the acid liquid and titrate the excess acid with fiftieth-normal sodium hydroxide, using methyl red T.S. as the indicator. Each cc. of twentieth-normal sulfuric acid is equivalent to 0.01699 Gm. of Cocaine Hydrochloride, $C_{17}H_{21}O_4N.HCl$.

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INDEX, ERRORS IN—

Page 643—Change the page numbers of Acid, Acetic, Diluted from 13, 550, 559 to 13, 550, 599, or paste the following correction in your index:

Acid, Acetic.....	550, 599
Acetic, Dilute.....	567
Acetic, Diluted.....	13, 550, 599

Page 643—Change the page numbers of Acid, Hydrochloric, Diluted from 567, 603 to 567, 602, or paste the following correction in your index:

Hydrochloric, Diluted.....	567, 602
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Page 644—Change the page numbers of Acid, Phosphoric from 481, 604 to 581, 604 or paste the following correction in your index:

Phosphoric.....	581, 604
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Page 644—Change the page number of Æthylis Acetas from 21 to 22 or paste the following correction in your index:

Æthylis Acetas.....	22
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Page 657—Change the page number of Corn-silk, Fluidextract from 177 to 197 or paste the following correction in your index:

Corn-silk, Fluidextract.....	197
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Page 657—Change the page number of Cubebs from 178 to 107 or paste the following correction in your index:

Cubebs.....	107
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Page 657—Change the page number of Cudbear from 300 to 320; the page number of Cudbear, Compound Tincture from 425 to 458; and the page number of Cudbear, Tincture from 450 to 458; or paste the following correction in your index:

Cudbear.....	320
Compound Tincture.....	458
Tincture.....	458

Page 657—Change the page number of Cultivated White Oats from 68 to 60, or paste the following correction in your index:

Cultivated White Oats.....	60
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Page 684—Delete the line "Syrup, Licorice 407."

This First Supplement to the National Formulary, Seventh Edition, is issued by action of the Committee on National Formulary, and with the approval of the Council of the AMERICAN PHARMACEUTICAL ASSOCIATION. It is effective from November 1, 1942, until further notice.

JUSTIN L. POWERS, *Chairman*
Committee on National Formulary
American Pharmaceutical Association

Washington, D. C.
November 1, 1942

ARMY AND NAVY TECHNICIANS NOT ELIGIBLE FOR REGISTRATION

SURGEON GENERALS OF BOTH SERVICES STATE THAT THEIR TECHNICAL COURSES ARE NOT INTENDED TO PROVIDE THE TRAINING THAT IS REQUIRED TO QUALIFY FOR LICENSURE

TO clarify the post-war status of persons who are trained in the courses given to hospital corpsmen in the U. S. Navy and in the pharmacy technician's courses of the U. S. Army, the following information has been received from the services.

In a letter addressed to the Chief of Naval Personnel, Surgeon General McIntire has stated:

"(1) It has been brought to the attention of the Bureau that on at least one occasion a prospective recruit was told—'that if he joined the Navy and received training in pharmacy, he would be eligible for registration as a pharmacist after the war is over.'

(2) Most states require graduation from an accredited college with a four-year course in pharmacy as one of the prerequisites for registration as a pharmacist in civil life. The training course given to hospital corpsmen does not of itself qualify men for registration as pharmacists.

(3) It is requested that Recruiting Stations be instructed to be governed by paragraph (2) above in statements regarding registration as a pharmacist."

In a letter addressed to the Chairman of the Executive Committee of the American Association

of Colleges of Pharmacy, Surgeon General McGee, of the U. S. Army, has stated:

"It is difficult to understand how this type of abbreviated and carefully planned training to meet the urgent needs of the Medical Department could contribute to the lowering of the established standards of pharmaceutical education formulated by the AMERICAN PHARMACEUTICAL ASSOCIATION or other related agencies. It is equally difficult to see how these methods of meeting temporary requirements of the Army should in any way influence the standards of licensure now established. The purpose of the enlisted technicians' schools was and is still to meet the temporary and urgent requirements for an ancillary service to the Medical Department—a need created first by the tempo mobilization and extended later by the urgency of war, and not to lower the educational requirements of any civilian institution or licensure standards now established."

When Brig. Gen. Larry B. McAfee appeared before the House Committee on Military Affairs at recent hearings on the Pharmacy Corps Bill, he was asked about the training of technicians and he replied that the Army does not claim to make these men pharmacists and does not expect them to get any credit with the various organizations for the service they have had after they leave the Army.

State boards of pharmacy have been urged to file this information for reference in case this inquiry arises in the future or such trainees seek registration. The information given above shows that such technical courses as are given at present are not intended to replace standard courses in pharmacy or to provide the training required for registration as a pharmacist.



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with alumni and faculty serving in the armed forces on land, sea, and in the air, and in the War agencies, the college has also taken leadership in many direct activities. It proposed and is conducting the quinine salvage campaign; has been awarded the U. S. Treasury war bond "Minute Man" flag; has been active in metal salvage, public health anti-venereal campaign, blood-donor programs and others.

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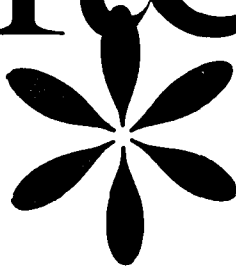
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Journal of the

AMERICAN PHARMACEUTICAL ASSOCIATION

VOL. IV, NO. 1

JANUARY 1943

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*Practical
Pharmacy
Edition*

Editor

ROBERT W. RODMAN

Committee on Publications

GEORGE D. BEAL, Chairman

B. V. CHRISTENSEN

ROY B. COOK

HUGO H. SCHAEFER

ON THE COVER: Mrs. Mary H. Coale, of the staff of the AMERICAN PHARMACEUTICAL ASSOCIATION, examines the biggest shipment of quinine to arrive at the National Quinine Pool in a single day . . . more than 2000 packages.

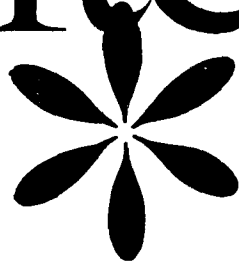
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DANGEROUS DRUGS AGAIN

THIS Journal and many other pharmaceutical publications during the past two years have carried informative articles on the subject of "dangerous drugs," by which is meant those drugs which the Federal Food and Drugs Administration believes are unsafe for self-medication and which, therefore, should be dispensed only on the prescription of a physician, dentist or veterinarian. Such drugs include the sulfonamides, benzedrine for internal use, thyroid, aminopyrine, the barbiturates, and others.

Although the compliance of pharmacists with the Federal Food, Drug and Cosmetic Law and its regulations covering this class of drugs has been very good, there are still some members of the profession who continue to sell these dangerous products over-the-counter.

In his recent report to Administrator Paul V. McNutt, of the Federal Security Agency, Commissioner W. G. Campbell, of the Food and Drug Administration, states: "In order to determine whether or not druggists are complying with the restrictions, inspectors, as ordinary customers, attempt to purchase these dangerous drugs 'over-the-counter.' In the large majority of instances druggists have refused to sell these items otherwise than on prescription. In comparatively few instances the drugs have been sold. Heretofore it has been the policy of the Administration to address letters to druggists who have made such sales, on the supposition that they are not familiar with their responsibilities. Through these letters, by publicity in the trade press, and particularly through the activities of State Boards of Pharmacy and other state and city officials, druggists have

now generally been informed of the requirements of the law. It may reasonably be assumed that future violations, if any, are deliberate."

It must be admitted that the Food and Drug Administration has been most reasonable in the length of time it has allowed for pharmacists to become familiar with the provisions of the law and its regulations. Now, apparently, the period of warning is past and prosecutions will begin against those who persist in selling benzedrine tablets, thyroid pills and other dangerous drugs over-the-counter.

All pharmacists are, or should be, familiar with the list of these dangerous drugs which has been quite widely published. There is a second phase of this problem, however, that many pharmacists may be overlooking. Certain products which, in the past, have been sold over-the-counter, now reach the pharmacist with labels bearing the phrase "to be used only by or on the prescription of a physician." These products are not dangerous drugs within the meaning of the law, and they could be sold over-the-counter if their labels bore adequate directions for use and other information which is required. Their manufacturers, however, apparently make use of the "prescription legend" exemption to relieve themselves of the responsibility of properly labeling the products.

These products, although not in the dangerous drug class, nevertheless cannot be sold over-the-counter unless the pharmacist who sells them labels them with such directions and warnings as are required by the Federal Law, and assumes the responsibility for such labeling. Since quantitative for-

mula disclosure is not required by the law, pharmacists are hardly in a position to supply such labeling information concerning products of unknown composition.

But the pharmacist, not the manufacturer, is responsible if these products are sold over-the-counter. Make sure that every product

you sell over-the-counter is adequately labeled in conformity with the law. Make it a practice to watch the labels of all products, regardless of how many years you have been selling them. There are a number of pharmacists who are violating the law today without realizing it.

HAVE YOU SENT YOUR QUININE IN?

ALTHOUGH the response of pharmacists to the Government's appeal for quinine has been excellent, we still have a long way to go before we can come anywhere near meeting the Army's and the Navy's need for supplies of this antimalarial drug. To maintain our present military operations in malarial areas of the South Pacific requires a tremendous quantity of both quinine and Atabrine, and the coming of spring in North Africa will make malaria a real threat to our troops in that region.

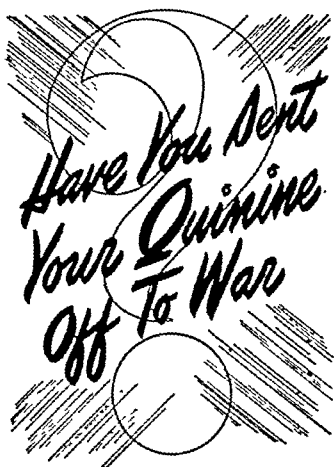
If you are one of the pharmacists who, although intending to send your quinine off to the National Quinine Pool, have put it off day by day, won't you take time to pack it up and ship it now, before it's too late? Don't wait until tomorrow or next week.

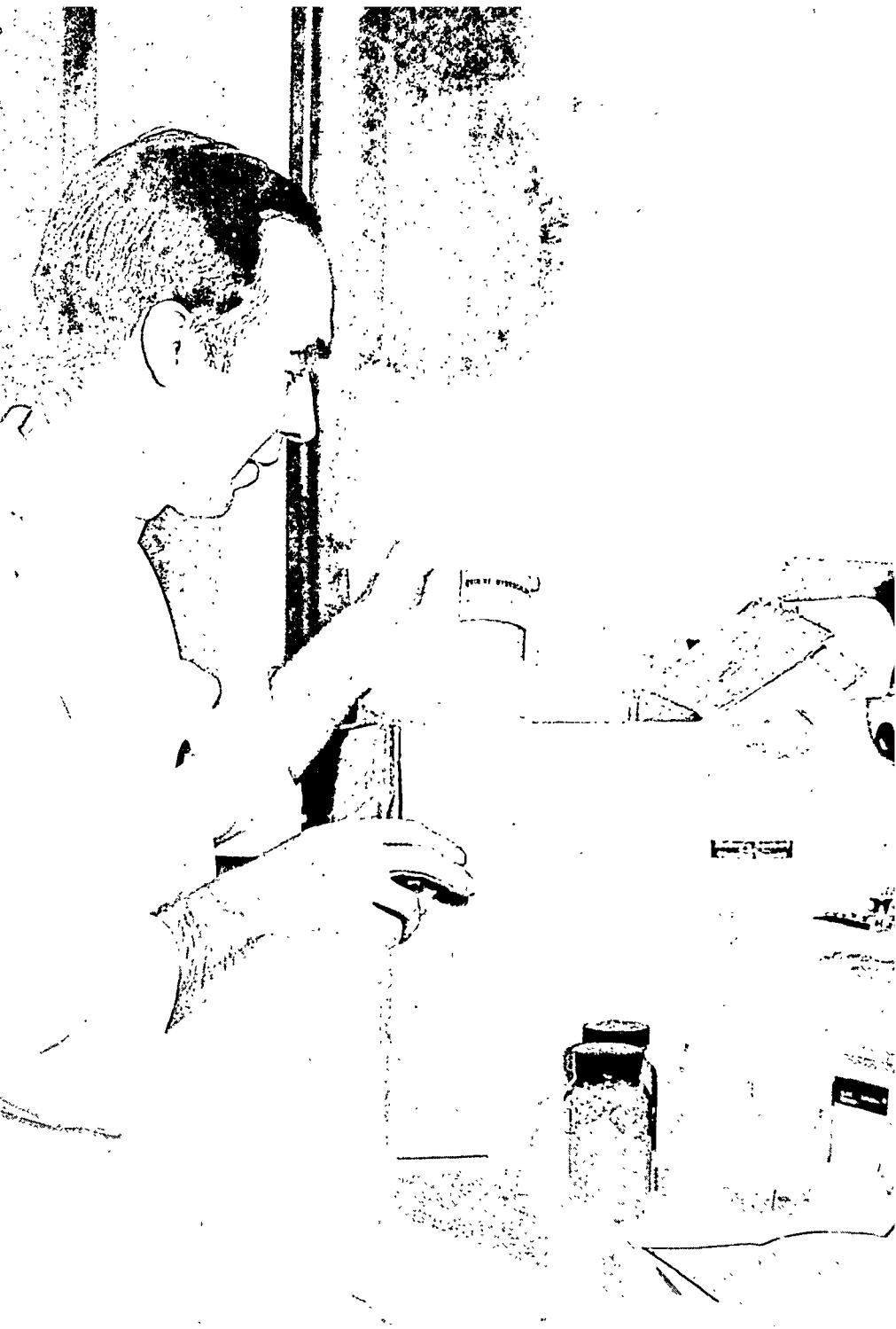
You, by your contribution, can protect a soldier from malaria for a week, a month or a year. You can help keep him in his fox hole or in his tank instead of in a hospital.

So get together your opened bottles of quinine capsules, the can of quinine sulfate you used to use for prescriptions, and the several odd containers of cinchonine and cinchonidine salts you have on the shelf—seal the bottles with tape, pack them securely in a box or carton, and send them to the National Quinine Pool, 2215 Constitution Ave., N. W., Washington, D. C.

Whether or not you enclose the coupon from the 6-page folder you received from WPB, your contribution will be recorded in your name, and you will receive a certificate in acknowledgment.

This is a fast-moving war and time is precious. Send in your quinine contribution today so that there will be time to pool it with that sent in by others and the entire amount can be reprocessed and ready for the Army and Navy when they need it. Let's not permit pharmacy's answer to the appeal for quinine be "too little too late."





PHARMACISTS ANSWERING *Call for Quinine*

CONTRIBUTIONS OF CINCHONA DERIVATIVES

POURING INTO NATIONAL QUININE POOL FROM

EVERY STATE, BUT MUCH MORE IS NEEDED.

HAVE YOU SENT YOUR QUININE OFF TO WAR?

WHEN the Japs seized the cinchona plantations of the Dutch East Indies and counted on malaria to help them win this war, they didn't anticipate that the pharmacists of the United States would upset their plans. Although pharmacists can't go out in a body and wrest Java and the other islands from the grasp of our enemies, they *can* do the next best thing—supply the Army and the Navy with the quinine which made the Indies of strategic value. And that is just what they are doing.

In response to the appeal of the Armed Forces, the pharmacists of the country are flooding the National Quinine Pool with thousands of ounces of cinchona derivatives. From every state in the Union hundreds of packages of pills, capsules and powder are pouring in daily. The Washington Post Office has had to make four and five special deliveries daily with mail trucks piled to the door with packages. The special staff which had been organized to receive the contributions, record and acknowledge them, and pool the various alkaloids and salts for reprocessing, soon found they could not cope with the mountain of packages which arrived each day, and both the Navy and Army have had to come to the rescue by detailing pharmacists from the Navy Dispensary, the Bureau of Medicine and Surgery, and the Army Medical School to help handle the unending flow of boxes and cartons. Even with twelve men and women working full time on the task, a tremendous backlog of several thousand unopened

packages quickly piled up and the personnel has been increased to eighteen in order to keep the project moving.

Within the first week after the contributions of pharmacists began to pour in, the large room which had been set aside to serve the needs of the pool had been outgrown, two additional rooms had to be cleared to provide space to handle the packages, and the halls connecting the rooms soon were crowded with thousands upon thousands of cartons awaiting attention. The operations of the pool now occupy nearly one-half of the entire lower floor of the AMERICAN INSTITUTE OF PHARMACY.

Never before has any profession been called upon to serve the armed forces of this nation in such an unusual manner and the way in which pharmacists are answering the call has astounded every Government official who has visited the Pool. Napoleon, who once slurringly characterized England as "a nation of little store-keepers," would get the shock of his life if he could see how the small, independent pharmacists of the United States are pooling their resources in this project of such vital importance to the war effort.

With many of the contributions come letters which typify the views of all pharmacists.

"I'm sending you all the quinine I have . . . I only wish I had ten times as much to send," writes a pharmacist from Iowa who sent in a package of eleven different items.



PHOTO BY ACME

The White House receives Certificate Number 1 as Lt. George A. Fox contributes the quinine from the presidential dispensary to Robert W. Rodman, of the AMERICAN PHARMACEUTICAL ASSOCIATION

"I know I could return my unopened packages to my wholesaler for credit, but I'd rather contribute them to our Armed Services" a California pharmacist writes.

"We have no malaria in our community and we are glad to contribute our entire stock in the hope that it may help the boys fighting overseas," states a Kansas pharmacist

"This is little enough that we can do," writes a New York City pharmacist

"Every grain of quinine we contribute will help bring Victory that much nearer," a Maine pharmacist writes.

"With the Armed Forces in such need of quinine, I would be ashamed to walk into my prescription room and find a single grain that hadn't been sent off to war," states a New Jersey pharmacist

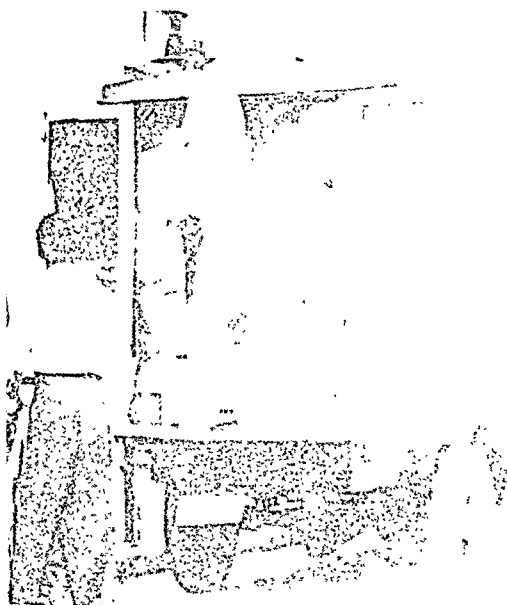
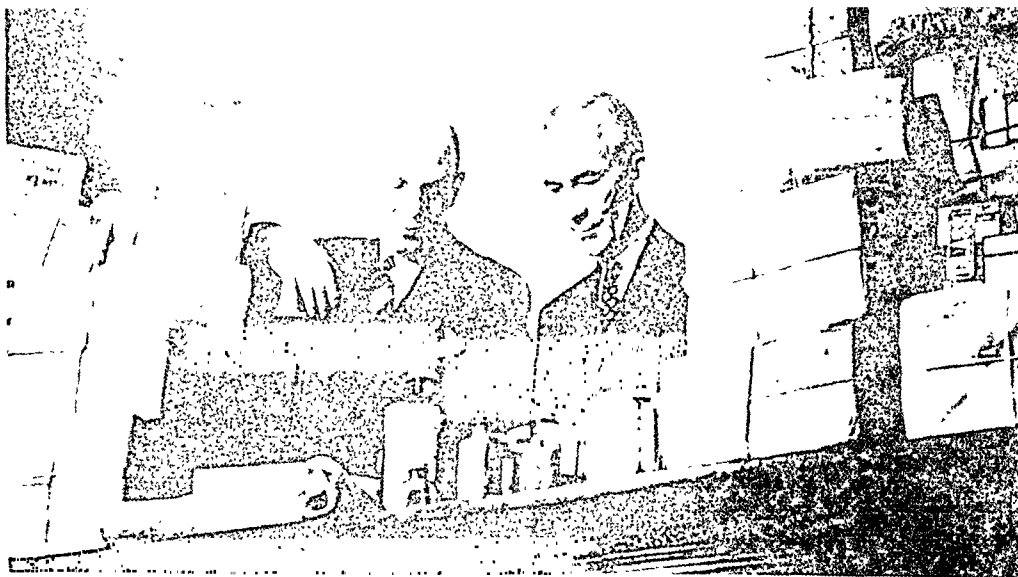
"Many of the boys who need this quinine are the sons of my customers. I've supplied them with the drugs and medicines they needed since the day they were born. What is more fitting than that I should send them the quinine they need?" So writes a Pennsylvania pharmacist.

These letters show that pharmacists are not merely sending their quinine in to the National

Pool in compliance with a request from the Government. Rather, they show the fire of patriotism that flows through the veins of all Americans, coupled with the pharmacist's knowledge of the insidious chills and fever of malaria and his appreciation of the value of quinine as an anti-malarial drug.

MORE QUININE NEEDED

Great as has been the response, however, the thousands of packages thus far received are but a fraction of the number which will come in if every pharmacist does his part. For every pharmacist who has packed up his quinine and sent it to the Pool, there are five pharmacists who "haven't got



THE AMERICAN
 PHARMACEUTICAL ASSOCIATION
 1200 K STREET, N.W.
 WASHINGTON, D.C. 20004
 ASSOCIATION OF PHARMACEUTICAL
 MANUFACTURERS

THE
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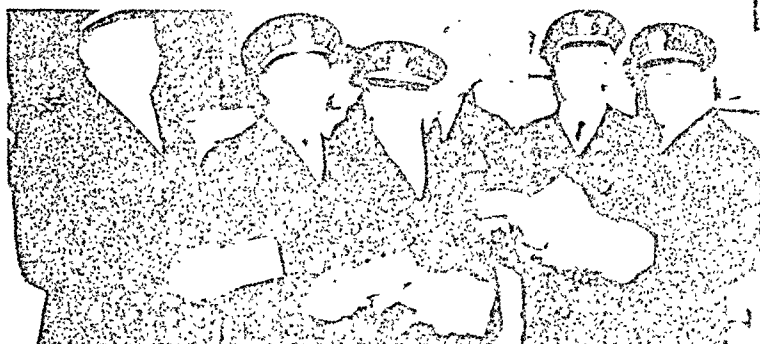




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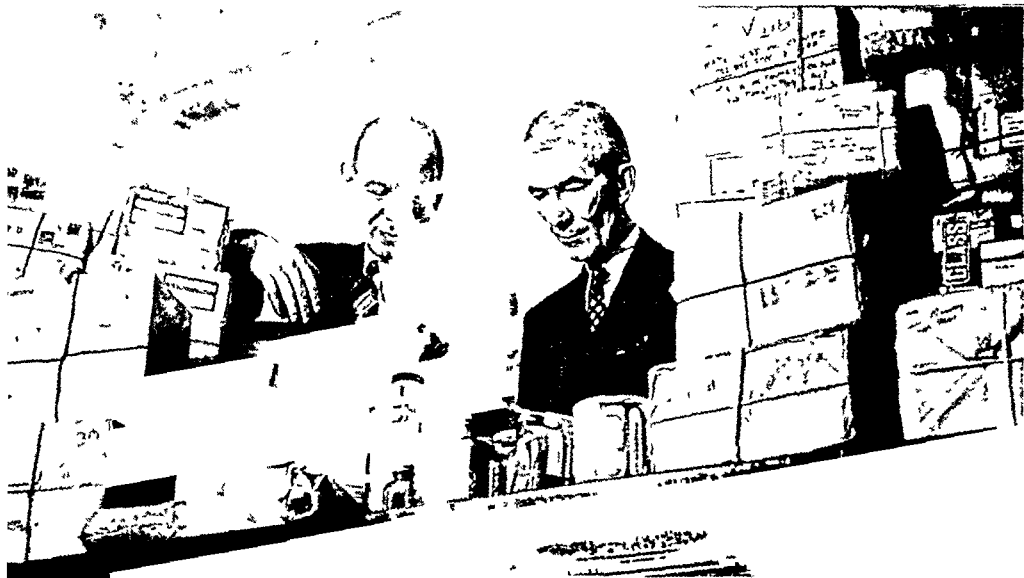


PHOTO BY SCIENCE SERVICE



Dr E. F. Kelly, Secretary of the AMERICAN PHARMACEUTICAL ASSOCIATION (right), and Charles R. Bohrer, Assistant Secretary of the ASSOCIATION (left), examining a group of the packages of quinine and other cinchona derivatives as they arrive from pharmacists

A steady stream of mail trucks, packed to the doors, pull up to the back door of the AMERICAN INSTITUTE OF PHARMACY daily as the contributions of pharmacists pour into the National Quinine Pool

A group of officers of the Hospital Corps of the U S Navy visit the Pool with Mr Bohrer to see the life-saving contributions of pharmacists as they arrive Left to right Lt W P Briggs, Ens J F. Buckner, Lt C P Dean, Mr. Bohrer, Lt E. G. Dennis, and Ens W A. Nugent



Harold H. Hueter and Cary Anderson, pharmacist's mates of the U. S. Navy, tackle the mountain of packages of quinine and other cinchona derivatives received from pharmacists.

around to it yet." They have received their six-page folder from the War Production Board, and have put it aside to take care of at the "first opportunity," but unless they take a few minutes off right now to do it, they'll probably forget it. Let's not let malaria handicap our boys in North Africa and the Southwest Pacific because only 10 per cent, 25 per cent, or even 50 per cent of the pharmacists in nonmalarial areas of the United States sent in their quinine. *Make it 100 per cent.* Don't put it off until next Sunday when business should be slack; don't even put it off until busi-

ness slackens off tonight after 9 o'clock—*do it now!* Get down that can of quinine sulfate, that bottle of quinine hydrobromide, those quinine sulfate capsules, and the small bottles of cinchonine and cinchonidine salts you have on hand—seal the containers, pack them up in a carton, and send them off to The National Quinine Pool, c/o THE AMERICAN PHARMACEUTICAL ASSOCIATION, 2215 Constitution Ave. N.W., Washington, D. C. It may be too late for you to make the first contribution of quinine from your state, but you can still make the biggest gift.

When Maj. Gen. Magee, Surgeon General of the U. S. Army, returned recently from a trip to North Africa, he told reporters that malaria would be a big problem in that area with the coming of spring, and Hon. Frank Knox, Secretary of Navy, returning a few weeks ago from the Southwest Pacific, said that malaria was a real threat in that theater of war. If

Turner Currens, Henry Heine, and John T. Balson, of the War Production Board examine a barrel of quinine capsules representing the contributions of hundreds of pharmacists.





Pharmacist's Mates of the Navy checking the individual packages and sorting the various salts. Left to right, Harry Anderson, Marvin Adams, William Hajla, Byron Baker, Raymond Schexnayder, and Harold Hueber.

you read the stories of newspaper men who are traveling with our forces at the front, if you read the several books which have been thus far written about the war, you cannot fail to be impressed with the malaria menace and the pressing need of our forces for antimalarial drugs.

As the war progresses, many of the battle areas will be shifted and some undoubtedly will move out of malarial regions, relieving, to some extent, the demand for quinine and Atabrine. Then, too, in time it may be possible to expand the production of totaquine from South American cinchona barks, and overcome its lack of stability, so that it will be satisfactory for the use of the Army in the field. But in the meantime, while practically all of our military operations are in malarial areas and totaquine production is in its infancy, pharmacists who have quinine on hand in their prescription rooms and dispensaries must step into the breach and help tide the Army and Navy

over. A year from now the situation may be different, but we can't wait until a year from now to fight the war. The Armed Forces need quinine and they need it now.

STATE ASSOCIATION SUPPORT

One of the greatest forces in the National Quinine Pool is the support which the local and state pharmaceutical associations are giving. Every state which has a journal or bulletin has enlisted it in the drive, and several associations

Pharmacist's Mates Marvin Adams (left) and Harold Hueber (right) fill a barrel with contributions of quinine sulfate.



OFFICIAL PHOTOGRAPH U S ARMY AIR FORCES

Your contribution of quinine will help keep this gun crew and others in action in tropical areas Don't let malaria force them to retire—send your quinine off to war—and send it TODAY.

have set up "Quinine Crews" made up of members who have volunteered to make a store-to-store canvass to urge pharmacists to send in their quinine.

Every contribution received at the headquarters of the National Quinine Pool is credited to the state from which it came, so that it will be possible to show the percentage participation of every state. More than one state is out to win first place by seeing how near they can come to 100 per cent participation.

In Pennsylvania, where the pharmacists participated in a test quinine pool sponsored by the Philadelphia College of Pharmacy and Science, certificates have been issued to those who contributed and this state has a head start. The all-out efforts of other states, however, are fast rolling up sizable scores

AN ALL-PHARMACY EFFORT

Every branch of the profession is taking part in the quinine drive. The colleges of pharmacy, state boards of pharmacy, wholesalers, manufacturers and others are all doing their share. Excerpts from articles appearing in leading state and national journals show how all the voices of the profession are joining in one large cry of "Send your quinine off to war." A few such excerpts follow:

"Money cannot buy quinine—it must come from those who have it. Only from quinine in stocks can this much-needed drug be supplied.

"Do something for freedom today—send in your quinine."

North Western Druggist

"If I were to walk into your store and ask that you give my boy, who was infected with malaria, enough quinine out of your stock to cure him or to keep him from taking malaria, I don't believe there is a single druggist in Tennessee but would give me all that my boy needed or more.

"Now, there are thousands of boys, maybe not mine nor maybe not yours, who need this quinine; they are somebody's boys, they have a fond relative here in America who prays for their safety and their safe return home.

"And for those thousands, we are appealing to you to contribute your stock of quinine and cinchona alkaloids right now.

"These boys in Guadalcanal, New Guinea, China, India, Burma and North Africa need this quinine and must have it if we are to come out victorious in this all-out war.

"... for your sake, for our country's sake, and for God's sake ... send it in right now."

Tom Sharp in the Tennessee Pharmacist

"Quinine and other cinchona alkaloids are needed in North Africa, Guadalcanal, Burma and other malaria-infested regions, more than they are needed on your prescription shelves. Boys sloshing through the jungles, or tramping the burning sands, may owe their life to your generosity in contributing stocks of broken or unbroken packages to the National Quinine Pool."

The Kansas Pharmaceutical News

"One shipment of the much-needed drugs has already left the offices of the North Carolina Pharmaceutical Association and another will soon be on the way. To date the equivalent of

eight thousand five-grain doses of quinine sulfate have been shipped."

The Carolina Journal of Pharmacy

"The National Quinine Pool presents to the pharmacies of New York State an opportunity never before had of contributing to the welfare of our armed forces in a spirit of patriotism. We know they will rise to the occasion."

The New York State Pharmacist

"It is not definitely known the amount of quinine held in prescription and dispensary stocks, but if these are given as they should be, the Nation's Capital is really going to see some quinine."

The Midwestern Druggist

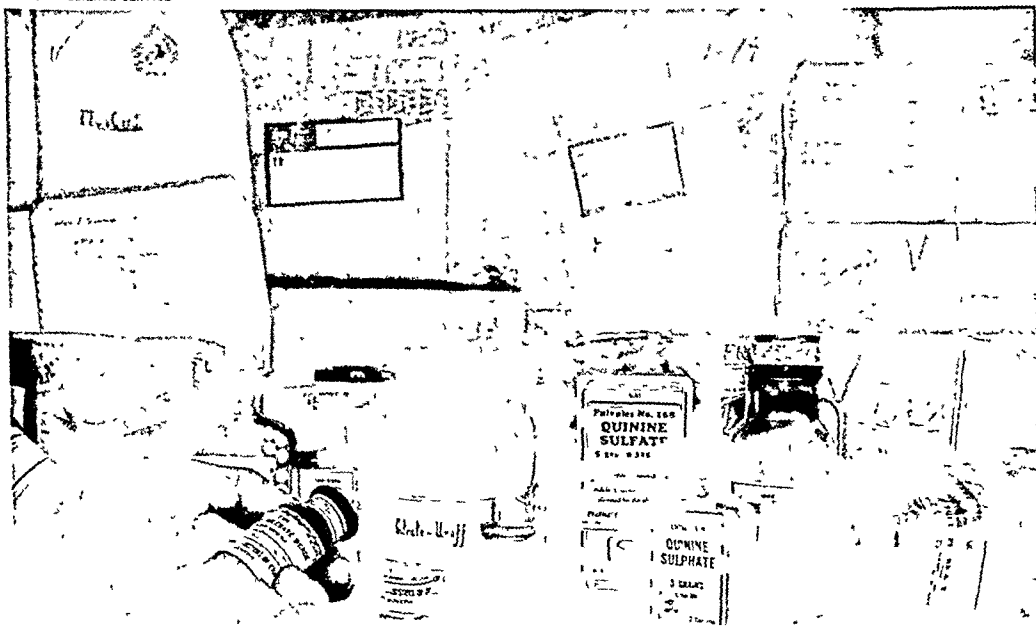
"So important is the control of malaria to the health of troops in many of the combat zones that the supply or lack of quinine might well be the determining factor in the winning of the war."

Journal of the American Medical Association

"There is no more patriotic group (than pharmacists) in America. They can be counted upon to render any service, assume any burden, undergo any privation which will help win the war."

Small bottles, large bottles, official salts, and unofficial salts of cinchona derivatives are needed to help fight this war.

PHOTO BY SCIENCE SERVICE



Those who would scoff at these facts know precious little of the frame of mind of pharmacists these trying, anxious days.

"But delay is dangerous. So go over your prescription shelves, delve into the drawers and other hideaways for quinine and other cinchona alkaloids. Get them together . . . and mail your donation of opened containers to the National Quinine Pool

"This display of teamwork between the WPB and the A. P. H. A. should make us very proud. It puts every drugstore in the war effort and this, I know, is just what pharmacists have been hopefully looking for."

DR. ROBERT L. SWAIN in Drug Topics

"The National Quinine Pool established by the AMERICAN PHARMACEUTICAL ASSOCIATION and the Drugs and Chemicals Section of the Chemicals Division of the War Production Board is a war necessity.

"No traveling salesman or detail man can serve his country's needs better in any other way than he can by striving to be the champion quinine collector of his house"

Oil, Paint and Drug Reporter

SEND YOUR'S OFF

If you haven't sent your stock of quinine and other cinchona derivatives—powder, pill or capsule—off to the National Quinine Pool, do it today. If you have mislaid your folder which

contained the card to enclose with your shipment, send a letter to that effect at the same time you send in your contribution. You will receive a certificate from the National Quinine Pool in acknowledgment. An accurate record is being kept of every pharmacist's contribution.

Send bulk quinine and other cinchona salts and alkaloids and tablets, capsules and pills of them. Do not send preparations of quinine or other cinchona derivatives which are in combination with other medicinal agents, such as Quinine and Urea Hydrochloride, Quinine and Urethane,

Quinine Bismuth Iodide, etc. Do not send ampuls and parenteral medication or liquids.

Send your contribution to:

THE NATIONAL QUININE POOL

War Production Board—

Defense Supplies Corporation

c/o American Pharmaceutical Association

2215 Constitution Ave., N. W.

Washington, D. C.

QUININE STORY TOLD ON THE AIR

RADIO PUBLIC LEARNS OF THE CONTRIBUTION OF PHARMACISTS IN COAST-TO-COAST PROGRAM

CARRYING the story of the National Quinine Pool to the public by radio, Robert W. Rodman, Editor of THIS JOURNAL, appeared as the guest of Watson Davis, Director of Science Service, on his "Adventures in Science" program, over the coast-to-coast facilities of the Columbia Broadcasting System. Mr. Davis' questions concerning the project and Mr. Rodman's replies were as follows:

Mr. Davis: "Our guest today is Robert W. Rodman, editor of the Practical Pharmacy Edition of the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION. He is to bring news of what those who compound the prescriptions of the nation are doing to help our fighting men. Malaria is one of our greatest enemies in this war, I understand, Mr. Rodman."

Mr. Rodman: "Yes, Mr. Davis, if the supply of two drugs, quinine and Atabrine, were cut off from our Army and Navy, we would have to abandon practically every battlefield on which our troops today are fighting. North Africa, Guadalcanal, Burma, India, and China are among the most malaria-infested regions of the world and no military operations would be possible in these areas unless our armed forces had adequate supplies of these two antimalarial drugs

to fight the deadly chills and fever which follow the bite of infected mosquitoes."

Mr. Davis: "What are these two drugs, quinine and Atabrine?"

Mr. Rodman: "Atabrine is a synthetic drug, the product of the test tube and laboratory, and we are producing all we need of it in pharmaceutical manufacturing plants in this country. It is a valuable antimalarial drug but is not a completely satisfactory substitute for quinine. In the first place it is slower acting and does not bring the case of malaria under control as quickly as quinine does, and secondly Atabrine produces toxic reactions in a considerable number of persons and thus cannot be tolerated by them. Quinine is the drug of choice for the first few days of malaria treatment in all cases, in order to control the disease as quickly as possible, and in individuals who are susceptible to Atabrine's toxic side-actions quinine must be used for the entire treatment."

Mr. Davis: "Quinine is a natural drug, isn't it, Mr. Rodman?"

Mr. Rodman: "Quinine is extracted from the bark of the cinchona tree and no one has yet been able to manufacture it synthetically. Although the cinchona tree grows wild in the jungles of South America, the Dutch, many years ago, transplanted seedlings to Java and other islands of their East Indies where they cultivated them intensively. They were successful in developing hybrid varieties of the cinchona trees whose bark yielded a far greater amount of quinine than that of the wild trees in South America, and within a

short space of time the plantations of the Dutch East Indies were furnishing over 90 per cent of the world's supply of this drug. The Dutch could produce quinine from their high-yielding cultivated trees so much more economically than anyone could produce it from low-grade trees that even South American countries where the cinchona trees grew wild bought the quinine they needed to fight malaria from the Dutch."

Mr. Davis: "When war came we realized that this was a vulnerable situation."

Mr. Rodman: "One of the first objectives of the Japanese after Pearl Harbor was the seizure of the cinchona plantations of the Dutch East Indies, and they fell into the hands of our enemy early in 1942. With the source of practically the world's supply of quinine in their control, the Japs undoubtedly figured that they would enlist malaria on their side and that the ravages of this disease would wipe out our armed forces by the tens of thousands within a very short time."

Mr. Davis: "It didn't prove as bad as all that, did it, Mr. Rodman?"

Mr. Rodman: "No, the Japs didn't figure on the ingenuity of the American people. In the first place, our Government accumulated a considerable stockpile of quinine immediately before the outbreak of the war. This quantity would probably have been sufficient for our needs if it hadn't been for the fact that all of our theaters of war have developed in malarial areas and thus placed a heavy drain on our stockpile."

"Our second step was to conserve against dissipation such quinine as we had in commerce. You see, quinine is not only our most effective drug for the treatment of malaria, it is extremely valuable in the treatment of colds, it is an excellent bitter tonic to stimulate the appetite, dissolved in oil it has the ability to screen out the ultraviolet rays of sunlight which cause sunburn, and it is an ingredient of many sunburn preventives that you use at the beach, and it is also widely used in hair tonics. Other drugs can be used in place of quinine for colds, in bitter tonics, in sunburn preventives, and in hair tonics, but nothing can quite replace quinine as an anti-malarial. So last April the War Production Board issued an order prohibiting the use of quinine except in the treatment of this disease."

Mr. Davis: "So great is the need of our armed forces for quinine, however, that still further steps have become necessary."

Mr. Rodman: "Yes, Mr. Davis, when WPB issued its Quinine Conservation Order last April,

it 'froze' the supplies of quinine in powder, pill, and capsule form that thousands of retail pharmacists and hospital pharmacists have in their prescription rooms and dispensaries. Malaria is practically unknown in three-fourths of the United States and, since the drug cannot be used for anything except the treatment of this disease, it is estimated that there are between three and eight tons of quinine in the hands of pharmacists in areas where it is not needed."

"The problem of how to get this quinine into the stockpile from the shelves of some 40 to 50 thousand prescription rooms and dispensaries at first seemed almost insurmountable to Government officials—but they found it was surprisingly simple—all they had to do was ask for it."

Mr. Davis: "Uncle Sam sort of wrote a prescription calling in this valuable drug."

Mr. Rodman: "That was about it, Mr. Davis. A test was first conducted in Pennsylvania. The Philadelphia College of Pharmacy told the pharmacists of that state of the need for quinine and urged them to contribute their prescription room stocks for the use of the armed forces. Thousands of ounces poured in and based on the success of the Pennsylvania test, the War Production Board and the Defense Supplies Corporation asked the AMERICAN PHARMACEUTICAL ASSOCIATION to establish a National Quinine Pool at its headquarters, THE AMERICAN INSTITUTE OF PHARMACY, 2215 Constitution Avenue, Washington, D. C. The ASSOCIATION gladly accepted the task and has been appointed the agent of the Government to collect quinine supplies."

"Within the past few days every retail pharmacist and hospital pharmacist in the United States has received a six-page folder from WPB in which Rear Admiral Ross T. McIntire, Surgeon General of the U. S. Navy, and Brigadier General Larry B. McAfee, Acting Surgeon General of the U. S. Army, frankly stated the needs of the armed forces for quinine and appealed for the help of the pharmaceutical profession."

Mr. Davis: "How are the pharmacists responding?"

Mr. Rodman: "The pharmacists of the country are answering the appeal with an almost unending stream of packages of all sizes, shapes, and descriptions which are pouring into the National Quinine Pool day after day. So great has been the response that during the last few days the volume of packages arriving has swamped the rather elaborate facilities which were set up to

handle them. Some of the packages contain the last few grams that a pharmacist had left from the last prescription he compounded, others contain bottles of 500 or 1000 five-grain quinine capsules which were originally destined to treat colds but which now are off to war to fight malaria."

Mr. Davis: "This is a real contribution to the war, it seems to me."

Mr. Rodman: "The cash value of the pharmacists' contributions ranges from a few cents to several dollars each, but their actual value cannot be figured in dollars and cents. With Java in the hands of the Japs, quinine is unobtainable at any price. It is not often that an individual in civilian life has the opportunity to make such an important contribution to the war effort; to give the armed forces a vital, strategic drug that money can't buy."

"Quinine is also pouring into the National Quinine Pool from a number of other, unusual places. Apparently the pharmacist's drive has started everyone looking for quinine. A soft drink manufacturer found several ounces of the drug which was a left-over ingredient from a long since discontinued quinine-water beverage. Last week the Superintendent of a Home for the Aged and Infirm in Washington, D. C., found a stock of 9000 three-grain quinine pills which had been in an old storeroom since the last World War. Quinine does not deteriorate with age and these old pills will be reprocessed for the use of our soldiers overseas."

Mr. Davis: "Are we protecting ourselves sufficiently against malaria at home?"

Mr. Rodman: "Let me assure you that this huge pooling of available quinine supplies will not leave the American people without protection against malaria. In the first place, only the pharmacists in areas where malaria is comparatively unknown are contributing their stocks of the drug, and furthermore, through the coöperation of Governmental, medical, and pharmaceutical agencies a drug known as Totaquine has been developed in this country for the treatment of malaria. Totaquine is a mixture of all the al-

kaloids of cinchona and it can be produced from the low-grade barks of South America. It is just as effective as quinine against malaria but, although it is physically stable under ordinary conditions, it gets sticky and gummy when exposed to great variations of temperature and humidity. Thus, although it is completely satisfactory for use in this country, and it is being manufactured by several large drug companies in the United States, it cannot stand shipment to Africa, the Solomons, China, and Burma, and subsequent exposure to the elements in the medical posts of an army in the field."

Mr. Davis: "Are the coöperating pharmacists being given a service badge or something of that sort?"

Mr. Rodman: "When you stop in at your neighborhood pharmacist's during the next week or so, you'll probably see a small certificate back near his license and his diploma. The certificate reads, 'We have contributed our stocks of quinine and related cinchona derivatives to the National Quinine Pool to be used to combat malaria among the Armed Forces fighting the Axis enemy in Tropical Areas.' Look for this certificate in your pharmacy, it is a well-deserved tribute to the man who has sent his quinine off to war."

"Just as the taxicabs of Paris rallied to the call of the French Army during the last World War and by their emergency service in transporting troops to the front saved their city and helped turn the tide of defeat into victory, so the pharmacists of this country today are packing up their stocks of quinine in answer to the call of our Army and Navy and sending them off to the National Quinine Pool."

"Pharmacists know that disease often decides the destiny of nations. They have read of the smallpox epidemics of the Revolutionary War, the toll of dysentery during the War between the States, the scourge of typhoid in the Spanish-American War, and they remember the "flu" epidemics of the last war. They are determined that malaria shall not decide this war, even if they have to strip their prescription room shelves of the drugs our Armed Forces need."





WE HAVE
CONTRACTED
NATIONAL
SECURITY FOR

A DENTIST LOOKS AT PHARMACY

by HOWARD M. MARJERISON

DEAN, UNIVERSITY OF ILLINOIS COLLEGE OF DENTISTRY

DENTISTRY AND PHARMACY HAVE BECOME TOO ENGROSSED IN THEIR OWN SPECIALIZED FIELDS. THE NEXT STEP IN OUR EDUCATIONAL DEVELOPMENT MUST BE TO BRING TOGETHER THE HEALTH GROUPS AS ONE COORDINATED WORKING TEAM WITH A COMMON OBJECTIVE OF RENDERING A HIGH TYPE OF HEALTH SERVICE TO SOCIETY

DURING the greater part of my adult life I have lived in Boston, Mass. There is a very fine College of Pharmacy in Boston. Its buildings and equipment and its accomplishments, are looked upon with pride by everyone in the community and state, and yet, although I was actively engaged in teaching and practicing dentistry for nearly twenty-five years in this city, I never set foot in the College of Pharmacy, nor do I recall that I ever discussed educational questions with pharmacists connected with the school. As a matter of fact, I have often heard the remark made by my associates that pharmacy as an educational problem is dying, that colleges of pharmacy were conceived to meet a different set of conditions from that which now exists. Their argument was based on the assumption that modern therapy had reduced the pharmacist's labor to dispensing already prepared drugs and compounds from a bottle. I confess that I began to believe the logic of their argument. It seemed reasonable that large pharmaceutical houses with all their resources of brains, money and equipment could prepare complex drugs better and in a more stable form than individual pharmacists. Ergo, traditional pharmacy schools were on the way out.

But then I came to Illinois a year ago last fall. In the intervening year I have learned a lot about pharmacy. My experience has been a striking illustration of the significance of the statement attributed to an ancient philosopher that "those who live beyond the mountains are

barbarians." Oh, how many values are lost in preoccupation with our own small sphere of activity. Most of our attitudes of mind, our prejudices, conceptions and opinions of nations, institutions and professions are changed when we get to know more about the other fellow's problems.

I have had here at Illinois an opportunity to become intimately acquainted with members of the pharmacy faculty; this has been an eye-opener to me in more ways than one. In the first place, it has emphasized the mutual advantages to be gained by close affiliation of the various branches of medical science, and in the second place, it has demonstrated the unity of purpose which exists among all branches of the healing art.

My attitude on this point is clearly stated in a recent article which I was called upon to write on "Dentistry as a Career." Among other things I said, "One important segment of human activity embraces the health services—for example, medicine, dentistry, pharmacy, nursing, public health workers, comprising a personnel of over a million and one half individuals in this country alone. Each of these specialized fields has one common purpose—to minister to the health of the people. Each of these fields calls for a similar background of preparation, interest and intellectual qualities. It is probably safe to say that a qualified individual could lead a satisfying career in any one of these subdivisions of health service. Therefore it becomes a matter of personal choice in arriving at a final decision concerning which profession he will select as a career. Each has certain opportunities and features peculiar to itself, but all require the same basic attributes."

In other words, the focus point of pharmacy, dentistry and medicine or any of its branches is the human organism. In dentistry we are concerned with maintaining the health of a circumscribed area of the human body, and yet in the light of newer knowledge, it is evident that intelligent comprehension of diseases of the teeth and jaws must be based on an understanding of the whole organism. Moreover,

Delivered before the Chicago Branch of the AMERICAN PHARMACEUTICAL ASSOCIATION.

our treatment is constantly being modified by increased knowledge of the functional activity of the body in health and disease.

The pharmacist, in turn, is concerned primarily with the field of pharmacology and therapeutics; with the compounding and manufacture of remedial agents for the control and cure of disease. While it is true that he is not responsible for diagnosis, yet he must be familiar with activities in the field of medicine, especially with the underlying problems of medicine. He must know something about disease, the chemistry and physiological activity of the human organism. It is in this area that the various branches of the healing art converge.

But the full realization of this concept has been handicapped by the fact that colleges of pharmacy and dentistry developed as more or less independent institutions, some proprietary in character and others with loose university affiliation. Their constituents became segregated into closely knit units, engrossed in their own specialized fields, thereby pulling away from allied professions

Since the turn of this century, however, revolutionary developments in the field of science have released a centripetal force which is bringing the practice and educational facilities of the various branches of health service together. Consequently, it is important for those of us in pharmacy and dentistry to study the implications of these forces which have profoundly affected the economic, social and educational structure of this country since 1900. As a matter of fact, the first forty years of this century constitute an amazing era, an era which has been punctuated by social upheavals and economic catastrophes—the World War, the jazz era, prohibition, the boom period, depression, culminating in the present cataclysm in Europe. With all this chaos, strife and despair, the triumphs and accomplishments of the last forty years have been to a large extent obscured. Paradoxical as it may seem, during this same period more contributions have been made to the welfare of humanity than during any other period in history.

In order to emphasize the dynamic nature of this period¹ let me remind you that about forty years ago this country was shocked by the assassination of President McKinley, and under



PHOTO BY LAMBERT

¹ C F Kettering *Research—An Eye to the Future*

dramatic circumstances a man named Roosevelt entered the White House. At this time the automobile was a rarity; the horse and buggy dominated the scene. The Wright brothers had not yet made their first successful airplane flight. The moving picture was in the nickelodeon stage. Telephones and electric lights had just been perfected. Gas was the last word in household illumination and the nostalgic odor incident to the ceremony of burning off the Wellsback mantle still lingers in the minds of those who participated. At the time of Theodore Roosevelt's death in 1919 he had no way of knowing that millions of American homes would contain instruments capable of capturing music sent through the air or that people could hear the same entertainment while rolling smoothly along concrete highways thousands of miles long.

It will not be necessary for me to continue this recital of technical advances which are familiar to all of you. My object is to emphasize that most of the things we now accept as commonplace in our daily lives—electricity, running water, automobiles—have been developed during these last forty years.

In addition to these improvements in transportation, comfort and entertainment, there have been equally important advances in the treatment and control of disease. It is astonishing to contemplate the fact that the majority of scientific methods in modern medicine have been perfected and applied within the lifetime of many of us. I personally can remember when the cause of appendicitis was not known. It was referred to as inflammation of the bowels and was usually fatal. One of my physician patients practiced in the days before aseptic surgery, and operated in hospitals with a common sponge. Prior to 1900 parents were haunted by the fear of diphtheria; a child with diabetes was doomed; typhoid fever, small pox, tuberculosis, pernicious anemia, all have either been eliminated as a menace to society or have been placed under reasonable control since the turn of the century.

EDUCATIONAL DEVELOPMENTS

These contributions to the welfare of society have been interlocked with revolutionary changes in the field of education. For example, in 1900 the dental curriculum consisted of three years,

with a high school diploma or its equivalent as an entrance requirement. Today, four years of professional training are required for a degree, and two years of study in a college of liberal arts are the minimum requirement for admission, which adds up to six years of training above the level of high school in 1941 in contrast to three years in 1900.

What is the reason for this one hundred per cent increase in dental educational requirements? What has led dentistry in this relatively short space of time from an independent vocational school to the status of a university discipline? In order to understand the currents which have propelled dentistry to its present position, it is necessary to consider the situation which existed in medical education in 1900. Contrary to the traditional conception, dentistry is not a self-contained educational unit, but is inseparably bound with the field of general and medical education. Its underlying science is the underlying science of medicine; it differs only in the application of that knowledge. In theory, it is a specialized field of the healing art in the same category as the specialty of the eye, ear, nose and throat, or any other branch of medicine. Therefore, its development and progress are dependent upon development and progress in the field of medical science. In 1900 medical education in this country was just beginning to emerge from the depths of commercialism and charlatanism; on the whole it was sickly and undernourished. It was not until fifteen years later that it established itself on the high university plan which it now occupies.

To give you a clearer idea of the state of affairs which existed in medical education at the turn of this century I quote from a report on medical education by Abraham Flexner which was published in 1910. He says: "First and last, the United States and Canada have in a little more than a century produced four hundred and fifty-seven medical schools, many, of course, short-lived, and perhaps fifty still-born. One hundred and fifty-five survived in 1907. Of these, Illinois, prolific mother of thirty-nine medical colleges, still harbored in the city of Chicago fourteen; forty-two sprang from the fertile soil of Missouri, twelve of them still "going" concerns; the Empire State produced forty-three, with eleven survivors."²

² Abraham Flexner, *Medical Education in the United States and Canada*. Report of the Carnegie Foundation for the Advancement of Teaching, 1910.

The Final Report of the Commission on Medical Education published in 1932 makes this interesting observation with respect to medical education during this early period: "In 1905, for example, only five of the 160 medical schools required any college work for admission. Ten years later, however, eighty-five of the ninety-six schools prescribed either one or two years of college work as a minimum preparation."

These quotations bring out the fact that between 1900 and 1915, medical education in this country was going through drastic reorganization and that, in general, it has only reached university status at a comparatively recent date (1915). But the attainment of university status does not tell the whole story; it is but a symptom, a reaction to important currents and ground swells which were forcing medicine toward higher standards. The propelling force behind all this reorganization was the great influx of scientific knowledge which poured from the minds of scientists, particularly in Europe. It has been well said that more advance has been made in scientific knowledge in the last sixty years than during the preceding twenty centuries. During the last century, a great galaxy of scientists were diligently working in their laboratories; Koch, Lister, Pasteur, Bernard and countless others were developing their researches out of which were to come the sciences of pathology and bacteriology, aseptic surgery and the laws of sanitation. In fact, it was this group of men who laid the groundwork for most of the triumphs of modern medicine. Moreover, the new fields of knowledge which they opened up completely changed the vision of medicine and the course of medical education. It was through their studies on structure and function that we began to appreciate the complexity of the human organism and the interdependence of its various parts. There was no escaping the fact that if the implications of this new knowledge were to be realized, future practitioners of medicine must be trained along broad intellectual lines. The response of American medicine and the support of higher standards in education by the public constitute one of the great achievements of the last forty years.

But we should not forget the scientists and scholars who set the pace. They are the real conquerors of the last century. At the same time we should underline the important fact

that all the contributions which have been made to the welfare of humanity during this twentieth century have been made possible by men who, in the case of medicine, were interested in knowing about the nature of disease, an entirely different thing from the treatment of disease; or in the case of the contributions to our comfort and entertainment, by men who discovered fundamental knowledge from which were deduced physical laws, a far different thing from the invention of an automobile or radio. It is this fact which is of the greatest significance to education and society.

What has been happening to dentistry and pharmacy during this great upheaval in the field of medicine? Obviously they could not escape the impact of newer knowledge. It is equally obvious that they were more or less orphans in the storm while medicine was going through the labor pains of its educational rebirth, but as I have pointed out, developments in dental and pharmaceutical education are dependent upon developments in medical science. As soon as medicine placed its educational house in order in 1915, things began to happen in dentistry and pharmacy.

The advance of dental education from a three- to a six-year program, which I previously referred to, has taken place since 1918. In pharmacy the educational advance from an apprenticeship system to a two-year program, culminating in the present four-year collegiate requirement has all occurred since 1920.

The seeming indifference of medicine to the fate of dentistry and pharmacy has arisen largely from the fact that medicine has had its hands full placing its own house in order. Then, too, dentistry and pharmacy have not been without fault. Through tradition they became jealous of their prerogatives and built walls to defend their autonomy. Dentistry and pharmacy in turn must go half-way. In this respect, physical relationship is not enough. It must also be spiritual and intellectual relationship.

On this basis I believe that the next important step in educational development will be closer affiliation of medicine and all its branches. It will be a process of bringing the various specialized fields together as a coordinated working team with a common objective of rendering a superior health service to society.



Mrs. C. A. Steinmetz and Dr. M. W. Green examine N. F. Preparations of decreased glycerin content.

A. PH. A. LABORATORIES STUDYING GLYCERIN REPLACEMENT PROBLEM

**SHORTAGE OF THIS INGREDIENT OF
MANY PHARMACEUTICALS MAY
MAKE IT NECESSARY TO CURTAIL
ITS USE IN THE NEAR FUTURE**

FROM 20 to 50 per cent of the glycerin contained in many National Formulary preparations probably can be omitted or replaced with liquid glucose without affecting their appearance, taste, or stability, according to studies conducted by E. C. Beeler, C. A. Steinmetz, and M. W. Green in the laboratories of the AMERICAN PHARMACEUTICAL ASSOCIATION. With large amounts of glycerin being used in the manufacture of explosives and other war necessities, supplies of the drug for civilian purposes are rapidly becoming scarce and pharmacists must prepare to economize as much as possible in their use of it.

The three members of the A. PH. A. laboratory staff have suggested modified formulas for 30 N. F. elixirs, glycerites, solutions, mixtures, and syrups. It should be stressed that this study is preliminary in character and is being continued to determine the stability of preparations made with the modified formulas over long periods of time. The 30 suggested modifications in N. F. formulas are as follows:

Elixir of Aminopyrine—the amount of glycerin is cut from 60 cc. to 30 cc.

Elixir of Bismuth—the amount of glycerin is cut from 125 cc. to 63 cc.

Elixir of Calcium and Sodium Glycerophosphates—150 cc. of the glycerin is replaced by 150 cc. of liquid glucose.

Compound Elixir of Euphorbia—110 cc. of the glycerin is replaced by 110 cc. of liquid glucose.

Elixir of Iron and Strychnine—150 cc. of the glycerin is replaced by 150 cc. of liquid glucose.

Elixir of Iron and Strychnine Phosphates—150 cc. of the glycerin is replaced by 150 cc. of glucose.

Glycerinated Elixir of Gentian—the amount of glycerin is cut from 400 to 320 cc.

Compound Elixir of Glycerophosphates—175 cc. of the glycerin is replaced by 175 cc. of glucose.

Low-Alcoholic Elixir—the amount of glycerin is cut from 200 cc. to 160 cc.

High-Alcoholic Elixir—the amount of glycerin is cut from 200 cc. to 160 cc.

Elixir of Pepsin—the amount of glycerin is cut from 200 cc. to 160 cc.

Elixir of Pepsin and Bismuth—62 cc. of glycerin is replaced by 62 cc. of liquid glucose.

Elixir of Terpin Hydrate—200 cc. of glycerin is replaced by 200 cc. of liquid glucose.

Compound Elixir of Viburnum Opulus—75 cc. of glycerin is replaced by 75 cc. of liquid glucose.

Elixir of Viburnum Prunifolium—75 cc. of glycerin is replaced by 75 cc. of liquid glucose.

Glycerite of Bismuth—95 cc. of glycerin omitted.

Glycerite of Iodine and Zinc Iodide—the glycerin is cut from 55 cc. to 45 cc.

Glycerite of Pepsin—the glycerin content is cut from 500 cc. to 400 cc.

Alkaline Aromatic Solution—the glycerin content is cut from 100 cc. to 80 cc.

Solution of Carmine—180 cc. of glycerin is replaced by 180 cc. of liquid glucose.

Solution of Cochineal—the glycerin content is cut from 450 cc. to 360 cc.

Phenolated Solution of Iodine—83 cc. of glycerin is replaced by 83 cc. of liquid glucose.

Solution of Nux Vomica Alkaloids—the glycerin content is cut from 500 cc. to 320 cc.

Solution of Sodium Phosphate—the glycerin content is cut from 150 cc. to 120 cc.

Compound Mixture of Opium and Glycyrrhiza—60 cc. of glycerin is replaced by 60 cc. of glucose.

Mixture of Rhubarb and Soda—the glycerin content is cut from 200 cc. to 160 cc.

Syrup of Ammonium Hypophosphite—the glycerin content is cut from 300 cc. to 240 cc.

Syrup of Calcium Lactophosphate—the glycerin content is cut from 300 cc. to 240 cc.

Syrup of Hypophosphites—the glycerin content is cut from 300 cc. to 240 cc.

Syrup of Hypophosphites Compound—the glycerin content is cut from 300 cc. to 240 cc.

NAVY RATINGS AVAILABLE TO PHARMACIST-INDUCTEES

GRADUATE or registered pharmacists who are drafted will be eligible for ratings in the Hospital Corps of the U. S. Navy without undergoing the elementary training courses given in Hospital Corps Schools, according to new instructions issued by the Navy to all U. S. Naval Training Stations. Inductees who are 20 years of age or over, and who submit acceptable evidence of graduation or registration in pharmacy, may be advanced to Pharmacist's Mate, third class, after a short period of indoctrination, and sent directly to Naval Hospitals for one month's orientation in the duties of the Hospital Corps, on the completion of which they may be recommended for advancement in rating to Pharmacist's Mate, second class.

Pharmacists who desire to be assigned to the Hospital Corps of the Navy should so indicate at the time they present themselves for induction. They should have with them evidence of their graduation or registration.

Inductees who elect to serve in the Navy and who have had training or experience in pharmacy,

but are neither graduates nor registered pharmacists, must complete a recruit training course, at the end of which they will be rated as Hospital Apprentices, second class or first class, and sent to a Naval Hospital for orientation. A background in pharmacy and the individual's personal application, even though he may not be a graduate or registered pharmacist, may enable him to obtain a rating as high as Pharmacist's Mate, second class at the end of this training.

In the past, the petty officer requirements of the Hospital Corps have been met in part by the enlistment of professionally qualified V-6 reservists, most of whom have been college graduates or registered practitioners in various fields of professional service. With voluntary enlistments banned for men between the ages of 18 and 38, the Navy has found it desirable to make special provisions for men who possess measurable and standardized civilian education in these fields. The new procedure applies not only to pharmacists, but to other professionally qualified men in the auxiliary fields of medicine.

The Beveridge Report

IF Bernard Baruch had been commissioned to make a comprehensive study of social security in the United States, instead of an analysis of the rubber situation, the resulting Baruch Report would be comparable to the Beveridge Report on Social Insurance and Allied Services which was issued recently in England. It is inevitable that a similar study will be made in this country within the near future for it covers a subject which appears to be the crux of "post-war planning." President Roosevelt was expected to launch such a project in his address to Congress a few weeks ago and, although he did not go that far, he did cite as an important post-war project the guaranteeing of freedom from want to the American people "from the cradle to the grave."

Millions of Americans who have carried the load of producing war materials, and thus have played an important role in the conflict, are none too satisfied with the life they lived before the war. Unemployment and illness, with resulting poverty, robbed them of the opportunity to enjoy "life, liberty and the pursuit of happiness," and they are going to have a voice in planning the post-war social program. Their demand may be summarized in three words: "freedom from want," and it is an appeal which will be heard many times over during the next few years.

By "freedom from want" the public means it wishes an assurance of a livelihood free from the hazards of unemployment, illness, disability, or any other difficulty which might arise. The Social Security legislation which we now have in this country gives assurance of old age retirement income, and many states have unemployment compensation laws. Thousands of persons carry accident insurance policies with private companies to pay doctor's bills, hospital charges, and other expenses which an accident might cause. Some persons, carry sickness insurance and millions of employees contribute to group hospitalization plans. All of these protective measures are attempts to provide freedom from

RECENT ENGLISH STUDY GIVES
A PRE-VIEW OF SOME OF THE
POST-WAR PROBLEMS WHICH WILL
AFFECT MEDICINE AND PHARMACY.
WILL THE AMERICAN PEOPLE
DEMAND THAT HEALTH SERVICES
BE SUPPLIED BY THE GOVERNMENT
JUST AS EDUCATIONAL SERVICES
ARE PROVIDED FOR THEM TODAY?

want and relief from the necessity of sudden large expenditures.

In England such social protection is even more advanced than it is in the United States. What the Beveridge Report contemplates is the replacement of such piecemeal attempts to provide protection with a comprehensive public policy to embrace all of the hazards and uncertainties of life which might prevent one from living in freedom from want.

Sir William Beveridge, author of the report, proposes that after the war a group of impartial expert authorities determine the minimum amount of income needed to sustain an individual. This amount would then be assured to everyone, and, in addition, special allowances would be made for maternity benefits, funeral benefits, and marriage grants and health services would be furnished; the whole project being financed by an insurance system to which the individual, the employer and the government would contribute.

The idea of guaranteeing to everyone an income sufficient to sustain himself, and protecting him from any large expenses such as doctor's bills, funeral bills, etc., which would put him into debt, is revolutionary, but Beveridge says in the introduction to his report that this is a revolutionary period in the world's history, with the war abolishing landmarks of all time, and it is the time to consider a revolutionary scheme of social security rather than to try to patch up

present protective methods. In other words, as applied to the United States, he believes an all-embracing program should replace our present Social Security legislation, group hospitalization, plans, unemployment compensation laws, etc., which individually attack parts of the problem *or give protection to limited numbers of people*. He would substitute comprehensive protection to all persons.

FREEDOM FROM WANT

Surveys in a number of English cities have shown that three-fourths to five-sixths of want is caused by interruption or loss of earning power, and practically all of the remaining one-sixth to one-fourth is due to the fact that under the present system income is not related to the size of the family to be supported.

Protection from interruption or loss of income would be provided under the Beveridge Plan by improving and extending social insurance covering unemployment, sickness, disability, widow's pensions and retirement income. It would call for an all-over insurance scheme to cover everyone, an extension of protection to include all types of risk, and an increase in the rates of benefit. It would include a comprehensive health and rehabilitation service.

The adjustment of income to the needs of different sized families would be provided by children's allowances. The family would receive a weekly allowance for each dependent child in order to prevent lack of income from being a deterrent to having children and to prevent the number of children a family has from being a cause of want.

HEALTH SERVICES

Although the Beveridge Report makes no specific reference to providing pharmaceutical services under its suggested comprehensive health service, it is rather obvious that such would be included.

Sir William Beveridge's proposals in regard to health services may be summarized by his state-

ment that the people should be entitled to health in the same manner as it is today an accepted fact that they are entitled to education provided by the government. Using this as a corollary Beveridge states that the place of the private physician would be about that of the private school today. *Those who desired and could afford to pay for a high type of medical service, despite the fact that he is entitled to free service, would be free to retain a private physician, just as a parent today can send his child to a private school instead of public school, if he so desires.*

The Beveridge Report does not go into details concerning the Health Service portion of its plan; it merely outlines the basic premise on which health and rehabilitation services would be provided and constructs the framework around which the plan would be developed. It is obvious that such a plan would have a profound effect upon the health professions as they exist in an individual, private capacity today, and would make them, for all intents and purposes, agencies of the government. The medical profession and the pharmaceutical profession would become the medical service and the pharmaceutical service of the government, respectively.

There are indications that the adoption of such a comprehensive health service plan would require the services of considerably more physi-

The institution of a health service plan such as recommended by the Beveridge Report would have a profound effect on pharmacy as practiced today.

PHOTO BY LAMBERT

cians and pharmacists than are at present required. Medical care competes today for the money which a family has available after rent, food and clothing are paid for. Unquestionably, there are large groups of people who are not receiving proper medical and dental care because they cannot afford it, yet they are above the free clinic or charity level. If these groups were to obtain the health care they require, and physicians, pharmacists and dentists were recruited on the basis of the need for their services, rather than on the basis of their ability to make a living out of such money as the people have available for health care, considerably greater numbers of professional men would be needed.

Under present-day conditions it has been said that the average physician gives one-third of his time and attention without charge, and relies on his charges against the other two-thirds for his living. The trend of increasing taxes, corporate and individual, however, is such as to reduce each year the number of wealthy individuals who can carry the financial load of health services for those less fortunate. Physicians and dentists are finding fewer and fewer persons who can afford \$1500 operations or \$1000 dental bills.

Thus there is reason to believe that our present system of supplying health services is rapidly becoming outdated.

Certainly the institution of a health service plan such as contemplated by the Beveridge Report would all but wipe out self-medication because few people would attempt to diagnose and treat their own illnesses if free medical attention and drugs were provided under an insurance plan. This, plus a concentration of prescription practice in the hands of a comparatively limited number of pharmacies or dispensaries, probably would constitute its principal effect on pharmacy.

There is much food for thought in the Beveridge Report, and pharmacists who are interested in "which way the wind is blowing" will find it worth while to obtain a copy of the published report (The Macmillan Company, New York, N. Y., price \$1.00).

It is apparent that the post-war reconstruction period is going to provoke many problems affecting the lives and habits of the American people, not the least important of which will deal with the form and manner in which health services will be supplied.

A DENTIST-PHARMACIST DESIGNS A FEW DENTAL PHARMACEUTICALS

THIS GROUP OF PREPARATIONS, WHICH HAVE BEEN DISCUSSED IN THE A.D.A. JOURNAL, OFFER PHARMACISTS AN EXCEPTIONAL OPPORTUNITY TO DEVELOP FURTHER THEIR SERVICES TO DENTISTS

DR. J. Lewis Blass, who is a pharmacist as well as a dentist, and is Assistant Professor of Periodontia at the College of Dentistry of New York University, presents several new dental formulas in the *Journal of the American Dental Association* (30:3, 267-273, 1943) for prepara-

tions useful in the treatment of various types of periodontal disease.

TOPICAL ANESTHETIC

Dr. Blass suggests the following formula for a topical anesthetic:

Benzocaine.....	7.5
Oil of peppermint.....	6.0
Phenol crystals.....	3.5
Ethylene glycol, q. s.....	50.0

The benzocaine, oil of peppermint, and phenol crystals are mixed in a flask and heated until the benzocaine dissolves, and sufficient ethylene glycol is added to make 50 cc.

Benzocaine acts by depressing the sensory nerve endings. The phenol and oil of peppermint aid in dissolving the benzocaine and enhance its penetration and anesthetic action. The vehicle is nonirritating and makes contact with the membranes in the presence of saliva.

The preparation is used in subgingival curettage and in the relief of gingival pain from toothbrush abrasion or following extensive instrumentation. It may be prescribed for the patient to use at home, with directions to apply it with a cotton pledget every 3 or 4 hours.

PUMICE-BENTONITE PASTE

Pumice flour is used by dentists for cleaning and polishing teeth. Dr. Blass suggests the addition of bentonite which, he states, makes a colloidal suspension of the preparation when mixed with water. Calcium carbonate is also added to aid in polishing, oil of cinnamon and oil of peppermint are used to flavor the product, and amaranth is used to give it a pink color. The complete formula is as follows:

Saccharin, soluble.....	0.25
Bentonite.....	13.00
Oil of cinnamon.....	0.25
Oil of peppermint.....	1.50
Calcium carbonate, U. S. P.....	20.00
Sol. amaranth, 10%.....	1.00
Pumice flour.....	64.00

Mix, make a powder and place in No. 000 capsules.

The dentist empties the powder from one capsule into a dappen dish and adds as much water as can be held by the cap of the capsule. The paste is applied with a porte-polisher or rubber polishing cup.

SALT-LIME DENTIFRICE

Dr. Blass suggests the following salt and lime dentifrice for massage brushing and as a mouthwash for sensitive mucous membranes:

Menthol	
Saccharin, aa.....	0.6
Calcium oxide.....	12.0
Methyl salicylate.....	2.0
Sodium chloride, fine.....	500.0

Sig.: One-third teaspoonful in a glassful of water as a mouthwash-dentifrice.

The dentifrice makes a sweet, pleasantly flavored solution. The lime water acts as an antacid and is mildly astringent. The saline solution cleanses mucous membranes without irritation.

The use of this preparation in too high a concentration may irritate mucous membranes. To relieve the effects of such irritation, a mouthwash made by mixing one teaspoonful of hydrogen peroxide in one-half glass of water is recommended.

SODIUM OLEATE DENTIFRICE

A sodium oleate dentifrice is believed to leave a film of sodium oleate on the tooth surface. The film is broken down by saliva and leaves a thin coating of oleic acid on the teeth. Such a dentifrice is useful in cases of toothbrush abrasion, when special protection of the tooth surface against acid attack is desired, or in cases of great susceptibility to dental caries. Dr. Blass suggests the following formula for such a dentifrice:

Sodium oleate.....	6.0
Saccharin.....	0.2
Oil of clove.....	1.0
Oil of cassia.....	0.5
Oil of peppermint.....	0.5
Alcohol.....	50.0
Glycerin.....	25.0
Water, q. s.....	100.0

Sig.: Use 10 drops full strength on a dry brush as a dentifrice.

EPITHELIAL SOLVENT

Epithelial tissue sometimes interferes with pocket healing and a caustic solution is useful to dissolve it, permit its removal and stimulate connective tissue growth. Dr. Blass uses the following formula, which was introduced by J. O. McCall, for such a solution:

Sodium sulfide.....	70 grains
Sodium carbonate, 1 H ₂ O.....	20 grains
Water, q. s.....	1 ounce

The solution is applied on a twist of cotton or bibulous paper, carried into the pocket with a smooth broach or with a No. 17 explorer, the point of which has been broken. The mouth is rinsed, and, after three minutes, the solution is withdrawn, and a second application made and continued for seven minutes. A curet is used to remove the disintegrated epithelium and the tissue is pressed lightly to contact the tooth root and

held so for five minutes to allow clotting. The patient is instructed to avoid brushing the area for three or four days. The treatment is repeated in seven to ten days if the pocket has not closed.

No cotton rolls are used for the solution is caustic on prolonged contact with soft tissues, and the area and the entire mouth are washed or sprayed well after the solution is applied.

PERIODONTAL VARNISH

After subgingival curettage it is sometimes desirable to use a varnish to protect the tissues within the pocket. For this purpose, Dr. Blass suggests the following formula:

Gum copal.....	16.0
Gum mastic.....	16.0
Tincture of myrrh.....	20.0
Ether.....	20.0
Collodion.....	40.0

Dispense the solution in 8-cc. homeopathic vials.

The gums, resins and collodion in this solution are precipitated by water and form a sticky seal which will remain in place for at least 24 hours.

The area in which it is to be used is isolated with cotton rolls, dried and the varnish applied with a cotton swab. The area is allowed to dry for one minute and a cotton swab soaked in water is then applied. The precipitate is patted into place with the wet swab.

TANNIC ACID ASTRINGENT

In localized or generalized hypertrophy accompanied by edema, dentists often use an astringent solution. For this purpose, Dr. Blass recommends the following:

Tannic acid.....	30.
Glycerin.....	30.

Place the ingredients in a bottle and heat on a water bath until the tannic acid is dissolved.

Tannic acid is an astringent, acting through its ability to precipitate proteins, and glycerin aids in the withdrawal of water from tissue cells.

Dentists use this solution by applying it under the tissue flap on a rope of lens paper. It is allowed to remain for ten minutes and is followed with a mouthwash of 2 1/2 teaspoonfuls of salt

dissolved in a glass of water. The patient is told to use the mouthwash every two hours for three or four days. One application of the tannic acid solution is usually sufficient but, if necessary, a second application may be made in one week.

MOUTHWASHES FOR NECROTIC GINGIVITIS

In the treatment of necrotic gingivitis, the continued use of a mouthwash capable of liberating oxygen is essential. Sodium perborate has been extensively used for this purpose, but it has proved to be a frequent source of irritation to oral tissues and Dr. Blass prefers either hydrogen peroxide or zinc peroxide.

If hydrogen peroxide is used, the patient is instructed to add one teaspoonful to a half glassful of water and use as a mouthwash every hour, or less frequently, as required. Even the use of hydrogen peroxide should be restricted to the active stage of the disease, because prolonged use may produce irritation.

Zinc peroxide is applied to the gums as a paste, prepared with distilled water.

BEW NEEDS LAB EQUIPMENT

The following types of used laboratory equipment are urgently needed by the Board of Economic Warfare for its experimental laboratories abroad.

1. Polarimeters.
2. Analytical balances with weights sensitive to 1/28 mgm.
3. Electric ovens thermostatic control 1° to 140° C.
4. Soxhlet extractors 127 x 43 mm.
5. Laboratory grinding mills, Wiley type.

If you can spare any of the above listed items, please send full description including make and catalogue numbers to.

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FOR YOUR

Formula File

A GROUP OF FORMULAS REFERRED TO IN RECENT ARTICLES IN MEDICAL JOURNALS... FORMULAS YOU SHOULD HAVE AT HAND FOR PRESCRIPTION USE

PHYSICIANS, reading clinical reports in leading medical journals of the country, find references to a number of preparations with which they are unfamiliar but which they may wish to prescribe. Many of the preparations are referred to by the name of the individual who first reported their use in the literature, while others bear no designation other than a therapeutically descriptive title. The formulas for these preparations are not found in such formularies as are in general use, most of them being too new for such compendia, and unless an individual has access to a large number of medical journals, he is at a loss to supply the particular preparation.

To bridge this gap, THIS JOURNAL endeavors to provide pharmacists with a record of various new formulas as they appear from time to time in the medical literature.

KISSMEYER SCABIES LOTION

Soft soap
Isopropyl alcohol
Benzyl benzoate, aa q. s.
M. Ft. Lotio

The patient is given a 15-minute bath with vigorous soaping and scrubbing in hot water, followed immediately, while the subject is still wet, by an application of the lotion from neck to feet, using a 3-inch stiff brush. This coating is per-

mitted to dry and a second brushing is applied within 5 to 15 minutes. For 24 hours the patient is not allowed to wash his hands. At the end of the 24-hour period a second bath is given. Such rare cases of dermatitis as develop are readily controlled by calamine lotion.

Described by Maj. M. H. Saffron, Medical Corps, U. S. Army, as an anti-scabetic treatment which is meeting with growing approval abroad. (*Mil. Surg.*, 91: 5 (Nov., 1942), 560.)

PREHN'S FOOT POWDER

Salicylic acid, powdered. 5
Menthol, powdered.. 2
Camphor, powdered..... 8
Boric acid, powdered50
Starch.35
M. Ft. Pulv.

Described as useful in the treatment of fungous infections of the feet by Maj. M. H. Saffron, Medical Corps, U. S. Army. (*Mil. Surg.*, 91: 5 (Nov., 1942), 563.)

EMULSION OF SULFATHIAZOLE

Montreal General Hospital Formula

Sulfathiazole, finely powdered..... 5
Triethanolamine..... 2
Distilled water.....24
White beeswax..... 5
Liquid paraffin.....64

Described by Drs. F. B. Gurd, D. Ackman, J. W. Gerrie and J. E. Pritchard, of the Montreal General Hospital and McGill University, in the treatment of burns. (*Annals of Surg.*, 116: 5 (Nov., 1942), 641.)

HOSPITAL PHARMACISTS OPEN CHARTER MEMBERSHIP DRIVE

FOR a limited time, the American Society of Hospital Pharmacists is offering individuals who can meet their requirements the opportunity to become charter members in this newly formed organization. Since the new society is an out-growth of the Sub-Section on Hospital Pharmacy of the AMERICAN PHARMACEUTICAL ASSOCIATION, its officers wish particularly to give every hospital pharmacist who has been active in A. Ph. A. work the privilege of charter membership, but any hospital pharmacist is eligible if he joins the A. Ph. A. simultaneously.

H. A. K. Whitney, Chief Pharmacist of University Hospital, Ann Arbor, Mich., has issued the following call to the hospital pharmacists of the country.

'Emergencies create need.

"Needs, in turn, call for the best in trained personnel and materials with which to meet these

needs. It is, undoubtedly safe to state that, with very few exceptions, more demands are being made of pharmacists today than at any time in recent history. And all of us are very much aware that these demands are having to be met in the face of serious shortages of personnel and supplies. The present world-wide struggle has emphasized most emphatically the professional aspects of pharmaceutical service. In such a critical time as this fate has decreed that the AMERICAN SOCIETY OF HOSPITAL PHARMACISTS *must be launched!*

"The following is the list of officers of the American Society of Hospital Pharmacists and Committee Chairmen appointed to date.

Chairman: H. A. K. Whitney, University Hospital, Ann Arbor, Mich.

Vice-Chairman: Donald A. Clarke, The

APPLICATION FOR MEMBERSHIP IN THE

American Pharmaceutical Association

Approving the objects of the American Pharmaceutical Association, I hereby apply for membership in the Association and subscribe for the "Journal of the American Pharmaceutical Association." I enclose \$_____ for my membership dues and subscription.

Check which you desire:

- ☐ Membership with the PRACTICAL PHARMACY EDITION, at \$5.00.
- ☐ Membership with the SCIENTIFIC EDITION, at \$6.00.
- ☐ Membership with BOTH EDITIONS, at \$7.00.

Name in Full _____
(Print name in full—Initials are not sufficient)

Number and Street _____

Date _____ Town _____ State _____

Paid \$ _____ No. _____

This application with the first year's payment may be sent to the Chairman of the Membership Committee, the Secretary or any officer of the A. Ph. A.

E. F. KELLY, Secretary,
2215 Constitution Ave.,
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New York Hospital, 525 East 6th St., New York, N. Y.

Secretary: Hazel E. Landeen, Christian R. Holmes Hospital, University of Cincinnati, Cincinnati, Ohio.

Chairman of the Membership Committee: Lt. R. H. Stimson, M.A.C., Station Hospital, Fort Bragg, N. C.; *Acting Chairman:* Hazel E. Landeen.

Chairman, Minimum Standards Committee: Donald A. Clarke.

"You are urged to accept as your obligation any appointments and responsibilities which may be requested. Inquiries and suggestions are invited.

"In Union there is strength.

"Unity and organization will place us in the position we deserve, to meet not only the present problems but also the immense problems that are bound to present themselves in post-war planning—problems that will involve the heart and soul of our profession."

If you are a member of the AMERICAN PHARMACEUTICAL ASSOCIATION you need to fill out and send only the application blank on this page. If you are not a member of the A. Ph. A., you must fill out and send both application blanks.

APPLICATION FOR CHARTER MEMBERSHIP

American Society of Hospital Pharmacists

Approving of its objects, I hereby apply for membership in the American Society of Hospital Pharmacists and enclose \$3.00 as the annual fee for the current year. I also enclose an application for membership in the American Pharmaceutical Association together with \$5.00. It is understood I shall receive all the benefits described in such application. In lieu of the enclosure of a membership application in the American Pharmaceutical Association, I submit a statement of affirmation of membership therein together with application for membership in the American Society of Hospital Pharmacists.

Name in full..... Town..... State.....
 Number and Street..... Town..... State.....
 Graduate of..... Year..... Degree.....
 Registered as..... Year..... License No.....
 Where employed..... Address.....
 Capacity in which employed..... No. of Years.....
 Member of what local groups (Hospital).....
 Comment.....

HAZEL E. LANDEEN, Secretary
 Christian R. Holmes Hospital, Cincinnati, Ohio

Druggists' Digest

OF NEW FORMULAS, RECENT PHARMACEUTICAL DEVELOPMENTS, AND OTHER PROFESSIONAL DATA

EMULSION-TYPE BASE BEST FOR SALICYLIC ACID OINTMENTS

Salicylic acid produces a keratolytic effect in a shorter time when it is applied in an emulsion-type ointment base than when it is used in a petrolatum base on a zinc paste, according to E. A. Strakosch, M.D., of the Division of Dermatology and Syphilology of the University of Minnesota, in a thesis submitted to the faculty of the Graduate School of that institution in partial fulfillment of the requirements for the degree of Master of Science in Dermatology and Syphilology.

Dr. Strakosch investigated salicylic acid ointments prepared with the following bases:

1. Petrolatum
2. Equal parts of petrolatum and hydrous wool fat
3. Aquaphor (Duke)
4. Hydrosorb (Abbott)
5. Stearyl alcohol 10 Gm
Liquid petrolatum . . . 10 cc
Water 10 cc
Petrolatum 70 Gm.
6. Zinc oxide 7.5 Gm.
Talc 7.5 Gm.
Petrolatum, *q. s.* 30.0 Gm.

He first prepared 1 per cent ointments, placed 0.5 Gm. of each between 2 strips of filter paper and immersed them in small beakers containing equal amounts of a 1 per cent solution of iron chloride. The liberation of salicylic acid was judged by the degree of violet discoloration of the various solutions after 12 hours at room temperature. Ointment bases 3, 4 and 5 liberated the salicylic acid most freely.

Ointments of 1, 3, 5, 10 and 15 per cent salicylic acid were prepared in the 6 bases, and 0.5 Gm. of each sample was slightly rubbed into areas 2 x 2 inches of the skin of the thighs and abdomen 3 times daily, each individual test being repeated 4 times on a different subject. Specimens for biopsy were taken after 24, 48 and 7

hours, and 7, 10 and 14 days. Dr. Strakosch found that the keratolytic effect of the ointment paralleled the liberation of the salicylic acid from the various bases, the most rapid effect being obtained from ointments in bases 3, 4 and 5.

Increasing the concentration of salicylic acid in the ointments speeded up the keratolytic effect, but not in regular proportion. A 1 per cent ointment in base 2, for example, caused keratolysis in 10 days, a 3 per cent ointment produced the same effect in 8 days, and increasing the concentration from 3 to 5 per cent further shortened the time, and when the concentration was increased from 5 to 10 per cent, the time was reduced, not to half but to approximately one third. Increasing the concentration above 10 per cent causes little difference in keratolytic effect; 10 and 15 per cent concentrations giving for practical purposes, identical results.

Although emulsion-type bases were best for salicylic acid ointments, there was little difference between oil-in-water and water-in-oil vehicles. *Arch. Derm. & Syphil.*, 1: 47 (Jan., 1943), 16-26

DOSAGE OF VITAMIN D

Premature infants weighing less than 5½ pounds need 1400 International Units of vitamin D a day; normal infants, children under 5 years of age, pregnant women and nursing mothers require 700 units a day; and school children require 3500 units per week, according to a committee of the British Pædiatric Association which has been studying the subject.

The committee has recommended the use of a vitaminized oil reinforced with irradiated ergosterol which would contain 700 units of vitamin D and 3500 units of vitamin A per dram (3.7 cc.).

It further recommends that a booklet covering the following points of instructions be prepared for mothers:

(1) Start giving the oil gradually, a few drops daily, when the infant is 1 month old, and take a fortnight to work up to one teaspoonful.

(2) If the baby's birth-weight was over 5½ pounds, the vitaminized oil need not be given on summer days if the infant is out-of-doors in the morning and afternoon.

(3) Premature infants should receive double the normal dose, divided into four portions of ¼ dram each.

The committee states that the amount of vitamin D which a child obtains from food is subject to such variation and, in any case, is so minute that it can be ignored.

—*Am. J. of Dis. of Children*, 65: 1, 158-161

TWO FORMS OF A NON-GREASY WASHABLE OINTMENT BASE

Jack Pavone, pharmacist of the New York State Institute for the Study of Malignant Diseases, Buffalo, in a communication to *THIS JOURNAL* describes two types of a washable ointment base of the same general formula developed at the hospital for the application of medicinal substances such as menthol, procaine hydrochloride and sulfonamide drugs to dermal areas which have become extremely sensitive as a result of X-ray treatment. The two forms, one known as a nongreasy cream and the other as an emulsifier, have the following formula:

	CREAM	EMULSIFIER
Sodium lauryl sulfonate.	50.0	5.0
Cetyl alcohol.....	125.0	12.5
Triethanolamine.....	125.0	5.0
White petrolatum.....	250.0	..
Stearic acid.....	...	11.0
Cocoa butter.....	100.0	10.0
Distilled water.....	800.0	125.0

Cream: Melt the sodium lauryl sulfonate and cetyl alcohol on a water bath, heat for ½ hour with constant stirring. Add the triethanolamine and stir, then add the petrolatum and stir for 15 minutes. Add the distilled water in small portions with

constant stirring until a homogeneous mixture results. Add the cocoa butter and stir until it liquifies and is thoroughly mixed with the other ingredients. Remove from the water bath and immerse the container in cold water. Stir vigorously until a smooth, white cream. The faster the mixture is stirred the smoother and whiter the cream. The cream will absorb up to 60 per cent of water and retain a firm consistency.

Emulsifier: Melt the sodium lauryl sulfonate, cetyl alcohol and cocoa butter on a water bath. Add the stearic acid and stir until liquified. Mix the triethanolamine and water in a graduate and add to the liquefied mixture in small quantities with constant stirring. When thoroughly mixed, remove from the water bath, immerse the container in cold water and stir until the mixture congeals.

The following formulas illustrate the use of these two bases:

SULFATHIAZOLE CREAM

Sulfathiazole.....	5.0
Urea	10.0
Chlorbutanol.....	0.1
Distilled water.....	25.0
Nongreasy cream, q. s.....	100.0

The urea is dissolved in the water and filtered. The sulfathiazole and chlorbutanol are triturated in a dry mortar and enough of the urea solution added in small portions to make a paste. Add about 30 Gm. of the nongreasy cream and triturate until smooth. Add the balance of the urea solution, triturate and add enough nongreasy cream to make 100 Gm. Triturate to a smooth cream. Do not use metal utensils in preparing or storing.

This preparation is used in the treatment of burns, as a postoperative dressing, and in the treatment of necrotic areas and streptococcal and staphylococcal infections. It may be made with 10 per cent of sulfathiazole, with or without the urea. Sulfanilamide or sulfadiazine may be used in place of the sulfathiazole.

SULFATHIAZOLE SUSPENSION

Sulfathiazole.....	5.0
Chlorbutanol.....	0.2
Distilled water.....	35.0
Emulsifier, q. s.....	100.0

Triturate the sulfathiazole and chlorbutanol in a dry mortar and sufficient water in small portions to make a smooth paste. Add about 30 Gm. of the emulsifier, triturate well, add the balance of the water and triturate. Add sufficient emulsifier to make 100 Gm. and triturate well.

SULFAPYRIDINE AS A HEMOSTATIC AGENT

The problem of controlling tonsillar bleeding, secondary hemorrhages which often occur from 1 to 14 days after an operation for the removal of tonsils, has long been a worry to surgeons, for many cases are of the slow, oozing type which defy routine measures.

Then, early in 1940 orthopedic surgeons using sulfamethylthiazole powder locally in the treatment of osteomyelitis of frontal bones found that there was no postoperative oozing, and that gave Dr. Bernard P. Cunningham, of the Mayo Clinic, an idea. He tested the various sulfa drugs on guinea pigs with back wounds and found that, although sulfanilamide and sulfathiazole were ineffective, after spraying with sulfapyridine the surface of the wound became dry and covered with a thin, tenacious coating of the drug which could not be easily dislodged. To rule out the possibility that the hemostatic effect was due merely to the physical properties of the fine powder, he tried spraying wounds with talc, but it was ineffective.

He repeated his experiments on horses with like results. He also tried a 40 per cent solution of sodium sulfapyridine and found the wound dried up in 3 to 5 minutes, a silver-appearing precipitate apparently covering the base of the wound. Since the solution used had a pH of 11, he repeated the tests with a $1/10$ Normal solution of sodium hydroxide as a control, but it was ineffective.

For clinical study, Dr. Cunningham selected seven of the most difficult cases of tonsillar bleeding that were presented at Worrall Hospital, Rochester, Minn., over a period of 18 months. All were of the slow, oozing type which had resisted routine methods of treatment. In every case the treatment with sulfapyridine powder was successful.

Dr. Cunningham believes that sulfapyridine is a simple, safe and effective therapeutic agent for local application to the tonsillar fossa in the control of secondary tonsillar hemorrhage not

amenable to routine management and he suggests the possibility that its regular use may prevent the occurrence of such hemorrhages.

In spraying sulfapyridine powder on the tonsillar area, the patient is instructed to hold his breath to avoid coughing.

—*Ann. Otol., Rhin., and Laryng.*, 51:2, 301-310

ASPIRIN-ACETIC ACID SOLUTION FOR RINGWORM INFECTIONS

The application of a solution of 25 grains of acetylsalicylic acid (five 5-grain tablets) in one ounce of 4 per cent acetic acid (white chemical vinegar) is recommended in the treatment of ringworm infections of the skin by Dr. A. P. Hudgins, of Charleston, W. Va., in the November 1942, issue of the *West Virginia Medical Journal* (38:11, 406-408).

The solution is applied frequently to the infected hands and feet, especially after using soap. Patients are instructed to keep an ample supply in the bathroom and kitchen so that it can be used regularly and frequently. If the infection is slow in healing, a piece of gauze or cotton may be saturated in the solution and held to the area with adhesive tape for several hours.

The solution is described as effective in disinfecting fungus-infected shoes. It is poured into the shoes once or twice a day until the foot infection is cleared up and then once every two or three days as a prophylactic. Dr. Hudgins states that this routine is about as effective as the more elaborate "fumigation" processes involving the exposure of shoes to formaldehyde vapors and says it leaves the shoes wearable.

Dr. Hudgins developed the acetylsalicylic acid-acetic acid solution originally for the treatment of ringworm infections of the female genitalia. Such cases are treated in the physician's office by ultraviolet ray therapy and with 2 per cent acetic acid on tampons. The solution is prescribed for home treatment and is used two to three times a day. Vinegar douches, 1 ounce of vinegar to 1 quart of water, are also prescribed.

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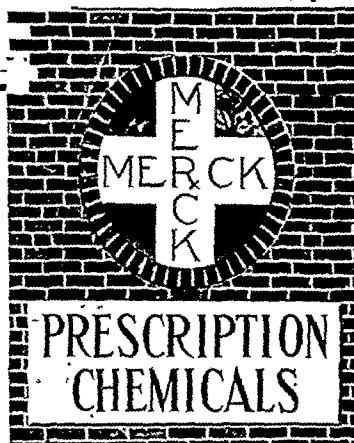
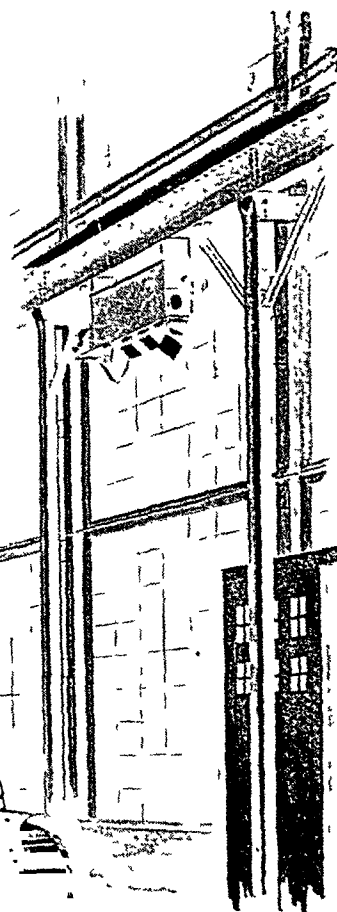
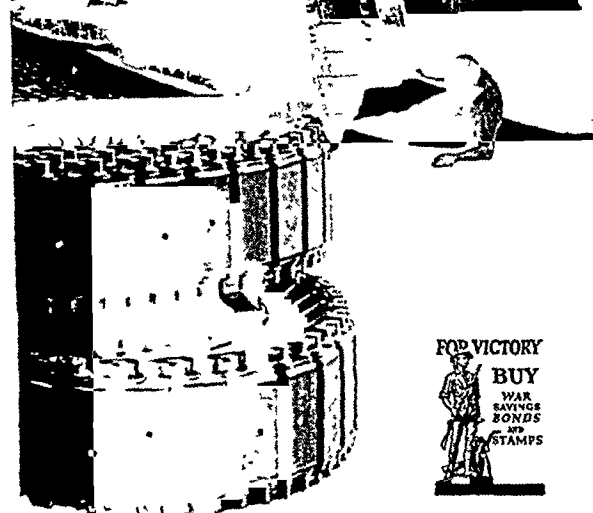
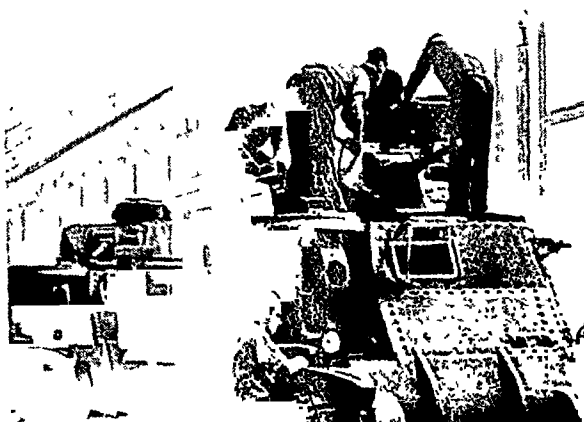
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